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By- Green, Leroy A.

EDUCATIONAL TECHNOLOGY DISSEMINATION PROJECT: A PROJECT IN SELECTED METHODS OF DISSEMINATING INFORMATION REGARDING EDUCATIONAL MEDIA BY STATE DEPARTMENTS OF EDUCATION.

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The Colorado State Department of Education sponsored a project to inform Colorado schools of the use and scope of instructional media and to determine the best method of disseminating this information. Schools selected on the basis of interest, location, budget, and size were assigned to one of three conditions. Plan A, used in 40 schools, was a breadth approach to dissemination, involving a multi-media demonstration, workshops, and team visitations. Plan B, a depth approach used in eight schools, involved an evaluation of audiovisual programs, a 12 week course in media utilization, and a follow-up consultation service. Non-host schools acted as controls. The four measuring instruments were a facilities checklist, an attitude inventory, and two questionnaires. Results are based on data collected during the two year project and analyzed only for schools participating for the duration of the project. These measures indicated an increase in the number of audiovisual directors, an increased willingness to buy equipment, a liberalization of buying policies, an increase in clerical assistance and in quantities of materials, and a favorable change in teacher opinions. Data also indicated a difference between administrators' and teachers' attitudes. No clear evidence supported one plan over the other, suggesting the need for both. (JO)

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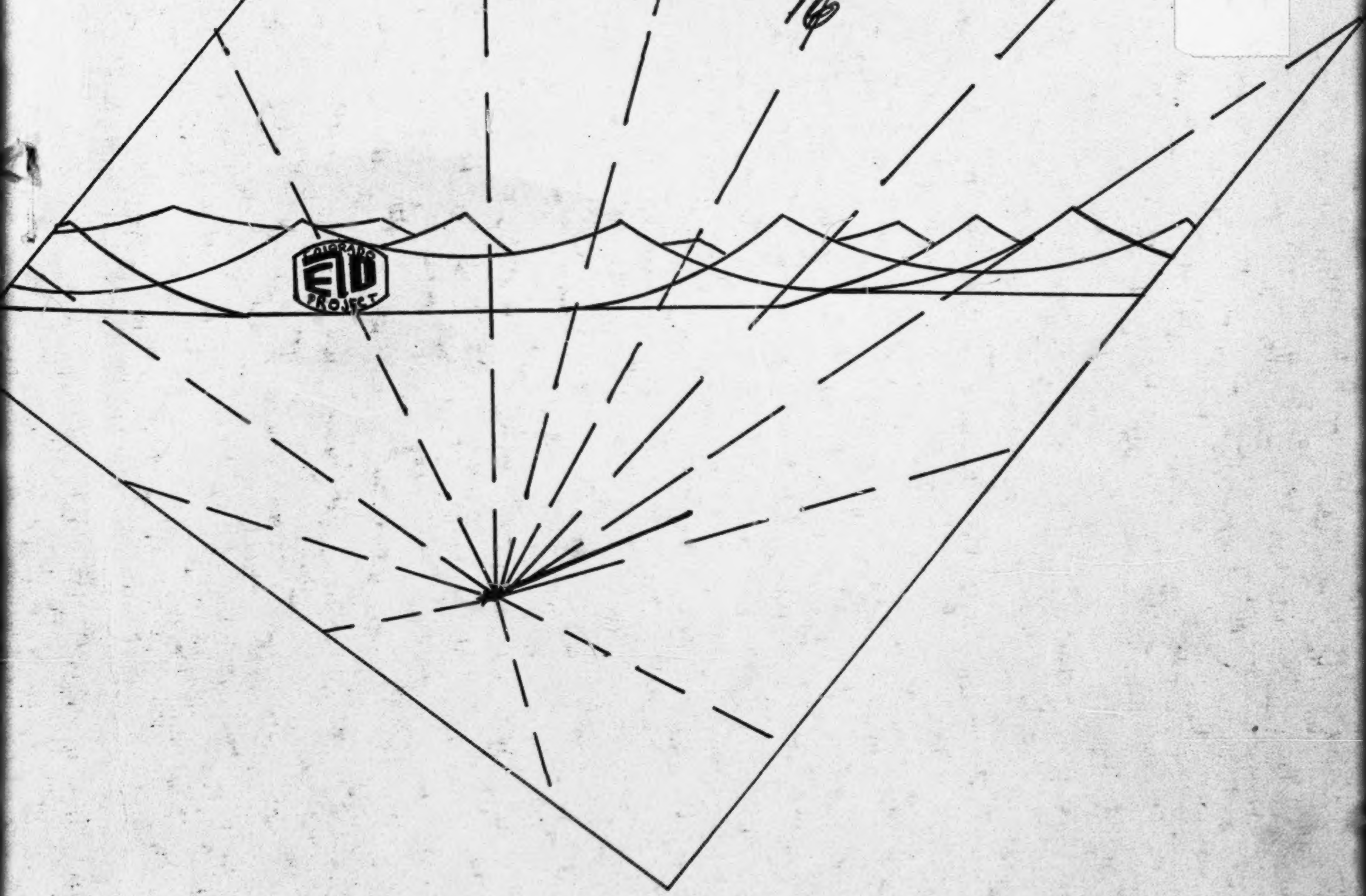

A PROJECT IN SELECTED METHODS OF DISSEMINATING INFORMATION REGARDING EDUCATIONAL MEDIA BY STATE DEPARTMENTS OF EDUCATION

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

September 1966

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A Project in Selected Methods of Disseminating Information Regarding Educational Media By State Departments of Education.

Project No.
Grant No. OE-4-14-022

Prepared by
Leroy A. Green

September 1966

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Commissioner of Education

Dr. Leo P. Black
Assistant Commissioner
Office of Instructional Services

Dr. Lewis Crum, Director
Division of Research and Development

Colorado Department of Education
Denver, Colorado 80203

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PREFACE

The Educational Technology Dissemination Project was sponsored by the Colorado State Department of Education. However, the project was conceived by members of Colorado Audio-Visual Association and operated cooperatively by the Colorado State Department of Education, Colorado Audio-Visual Association, Colorado University, Colorado State College, Colorado audiovisual dealers and Colorado public schools.

This project could not have succeeded without the special assistance of a number of people. Particular acknowledgment is due the following: Mr. Frank Anderson, former Executive Assistant to the Commissioner, Colorado State Department of Education, who developed and wrote the project plan; Dr. Robert de Kieffer, Colorado University, and Dr. Harold Bowman, Colorado State College, who assisted in the initial planning and launching of the ETDP; Paul Truitt and Harold Lord, who were CA-VA presidents during the project operation, for their strong support and participation in the project; and to all the CAVA members who served as team members.

We are especially indebted to the audiovisual dealers of Colorado who loaned all the equipment needed to operate the project. Without their cooperation the project would not have succeeded.

Jack Prince directed the project during the first year of operation. He had the difficult task of developing the presentations, organizing the teams, gathering the equipment, and contacting the host schools. Mr. Prince covered the eastern half of Colorado during the first year, and also gave consultative assistance during the second year of operation. We greatly appreciate his outstanding contribution in the development and conduct of this project.

Also among those who contributed their able assistance so willingly are the following to whom we extend our special note of appreciation: Dr. Lewis Crum for professional advice; Mr. William Grimes, Mr. Bob King, Mr. William Stobaugh, and Dr. David Wood for assisting with the Plan B extension courses; Dr. Herb Hughes, Dr. Darrell Anderson, and Colorado State College graduate assistants for their evaluation of the project; Miss Grace Gavin and Mrs. Karen Marcum for their fine secretarial help; and to the teachers, administrators and patrons of the host schools for their kind cooperation and for their help in making the ETD a very pleasant and successful endeavor.

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction: The current technological revolution has produced startling advances in the communications field. Many new communicative tools have been developed which may be employed by educators to speed up learning. All professional educators must be kept up-to-date regarding the availability and the use of these tools in their profession. This report will discuss the Colorado Educational Technology Dissemination Project and present the observations of the Project Directors. Mr. Jack Prince was Project Director from June, 1964 to June, 1965. Mr. Lee Green continued the Project until its completion September 30, 1966.

The Problem: Colorado is a land of extremes. The terrain rises from 3000 feet in the southeastern corner to 14,000 foot peaks of the central Rockies. A sparse population is separated by great distances and mountain ranges. During much of the school year, weather conditions make travel difficult. Educational information is disseminated mainly by state-wide and regional conferences.

Few of Colorado's school districts have audiovisual programs or personnel capable of conducting local or regional workshops. Many of the economically deprived districts not only do not have a media program, but do not possess rudimentary graphics, production facilities, nor do they use native resources or realia. In some areas, the provincial attitude of patrons restricts cooperative educational enterprise.

Most audiovisual materials and equipment in Colorado were purchased after 1950. The largest portion of the equipment was purchased after 1958. The National Defense Education Act contributed substantially to the purchase of equipment and materials. However, too often little or no inservice training was provided to insure proper use of this instructional media.

Colorado's colleges and universities have offered on-campus and extension courses in methods and administration of audiovisual instruction. They have also consulted with public school personnel and have jointly sponsored audiovisual caravans.

Colorado Audiovisual Association plays a significant leadership role in audiovisual activities of Colorado. Members of CAVA have worked closely with the Colorado State Department of Education, Colorado University, and Colorado State College in the preparation of teaching materials and inservice training of the ETDP demonstration teams.

In 1963, the National Audiovisual Directors Convention (DAVI) was held in Denver. The convention was organized and operated by approximately ten members of the Colorado Audiovisual Association. About 1800 teachers and supervisors from throughout the state attended this convention. The ETD Project was conceived as a result of interest in educational media generated by the DAVI Convention.

Colorado is not unique with its rugged terrain, sparse population, isolation, and small school attendance centers. Many other sections of the United States experience insulation from educational change and the need for the dissemination of information necessary to initiate change. It is hoped that the following plan of action will provide a structural model for similar dissemination activities in other states.

COLORADO
ETD
PROJECT
COLORADO STATE DEPARTMENT OF EDUCATION
EDUCATIONAL TECHNOLOGY UNIT
SERVING COLORADO SCHOOLS

Illustration #1: ETD Van

Illustration #2: Dr. Jerry Kemp briefs ETD team.

CHAPTER II

REVIEW OF LITERATURE

Education, like the rest of our culture, is in the midst of a technological revolution. This revolution seems to have created a marked interest in audiovisual materials and methods in American schools. Some educators and laymen are becoming increasingly conscious of the promise that these tools hold forth for teaching and learning.

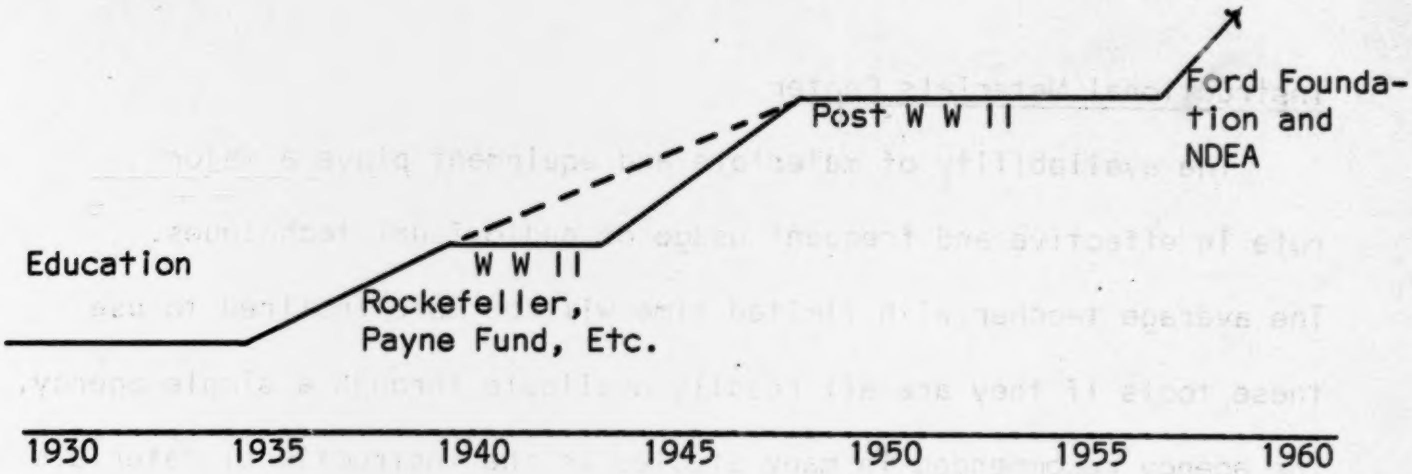
There appears to be a growing and dangerous gap between educational communication methods and the methods used by society. The technological revolution in society has created a movement away from only the printed and spoken word toward the use of several means of communication. But discussions, lectures, and books still seem to be the common practice in today's classrooms. Many educators still operate as if audiovisual tools are only for entertainment, not realizing that students are used to a variety of communication tools outside of the school. These students are becoming discouraged with the lack of tools in the school. [7]Heffernan (1959, p. 80), summarized the movement by stating that textbooks, no matter how wisely they are used, are not enough.

There is a growing movement to remedy the communication gap in education. This movement has created a new place for audiovisual materials in education as indicated by [10]Molstad (1957, p. 78), "Within the past ten years audiovisual materials have evolved from supplementary or enrichment aids to their proper position as basic teaching materials."

This evolution of audiovisual materials coincides with the growth in instructional technology shown in Figure 1[3] (Edling, 1960, p. 54). Much of the growth of instructional technology has been

Fig. 1 1-Growth of Instructional Technology

TABLE I



limited to the period since 1935. According to [11]Thomas (1958, p. 268), the growth has also been limited in that, "not all media have received the same amount of research attention." [2]Duff (1961, p. 178) reported in an address to the National Association of Secondary Principals that too much of the information we do have comes from the optimistic claims of commercial interests rather than from the experiences of competent educators. Duff also voiced the opinion held by many educators that "... we need evidence, scientifically derived, concerning the possibilities and limitations of new technological devices." [12]Wittich (1963, p. 61) went even further when he wrote that we are beyond the research investigation, and it is time to launch programs of classroom demonstration and utilization. Whichever view is subscribed to, it is obivous that additional research and demonstrations will be needed.

In the following pages, the status of audiovisual education will be reviewed under these general categories: (a) research on audiovisual tools; (b) instructional materials and services in the schools; (c) teachers and audiovisual; and (d) audiovisual usage studies and demonstrations.

This review is based on a thorough study of the literature for the ten year period, 1954-1964.

Instructional Materials Center

The availability of materials and equipment plays a major role in effective and frequent usage of audiovisual techniques. The average teacher with limited time will be more inclined to use these tools if they are all readily available through a simple agency. The agency recommended in many studies is the Instructional Materials Center. The Instructional Materials Center may be described as a place where teachers can locate materials, gain counsel in their use, and schedule needed equipment.

Studies indicate that better teaching results when materials are readily available. [5]Fortado, et al. (1963, p. 82) reported on a survey of fourteen teacher training institutions. The results indicate that textbooks and courses of study are the backbone of most of their centers. The disturbing result was that only two of the centers provided projectors. Public schools, where the colleges placed their graduates, were contacted and reported the same as the colleges; the libraries were used for printed materials and audiovisual material was elsewhere.

[6]Harris (1960, p. 129) reported the results of an NEA survey which found that two-thirds of the districts had materials centers in

the schools but only one-fourth of the districts had central materials centers. Another study indicating the value of the materials center was reported in the CTA Journal (1961, p. 11). The question asked of approximately 500 elementary and secondary teachers was, "What central office service is most helpful in teaching?" Approximately one-half of the teachers listed audiovisual services as most helpful. No other service approached this level.

Two recent evaluative criteria for materials centers have been proposed by the NEA Department of Audio-Visual Instruction and by the National Study of Secondary School Evaluation[1] (Brown and Moldstad, 1962, p. 197). The NSSSE proposed the following criteria: provide a rich variety of instructional materials for individual and group use, stimulate proper utilization, provide facilities, services, and equipment needed, aid teachers in selection, organization, and usage, and aid production of instructional materials.

Existing and recommended audiovisual standards. As the studies and evaluative criteria suggest, more equipment and materials are needed. This situation exists even though a study by Finn, Perrin, and Champion reported in the Educational Executive Overview (1963, p. 31) showed a decrease in the number of teachers per unit of equipment.

Suggested minimum standards for audiovisual equipment and materials have been recommended by various individuals and organizations. A listing of recommended standards was made by a work committee of chief State School Audiovisual officers at a Des Moines work conference, November, 1965. The summaries of the standards show that there is considerable agreement except on new developments such as the tape recorder, television, language labs, and overhead projectors.

These standards were a further development of the Farris-Sherman Study and Standards recommended by the Department of Audio-Visual Instruction of the NEA. (See Table II)

A major problem with minimum standards has been discussed by [8]Hyer (1961, p. 506) and other writers. Not only is setting of standards difficult in a field which is developing new tools all the time but "... minimum standards tend to become maximum ones." Some schools already meet the minimum standards but those which do not might still have an adequate program because minimum standards need to be adapted to local conditions, according to [9]Lanza (1957, p. 278).

Minimum standards for materials are not as common as those for equipment. [8]Hyer (1961, [c], p. 507) wrote that basic to determining adequacy of materials is the need for accessibility, availability, and suitability. There have been several articles suggesting minimum numbers of films and filmstrips per teacher. [8]Hyer (1961, [c], p. 510) reported the only study which suggested minimum material standards. This study was a master's thesis by Hass made at the request of the California Department of Education in 1958. In Table III is shown the standards suggested by this study for four sizes of administration units.

TABLE II EQUIPMENT STANDARDS

Elementary Education

Type of Equipment	Basic per Teaching Station	Basic per Teaching Station	By 1967 per Teaching Station
16 mm Sound Projector	1 per 10	1 per 10	1 per 2
2 x 2 Slide	1 automatic per school	1 per 10	1 per 2
Filmstrip Projector	1 per 3	1 per 1	1 per 1
Filmstrip Viewer	1 per 3 (Plus a quantity (1 per 2 stations) that may be checked out from a central force.)	1 per 1	1 per 1
Classroom Type Overhead Projector	1 per 4	1 per 1	1 per 1
Auditorium Type Overhead Projector	Appropriate number for large group instruction		
Opaque	1 per building	1 per 6	
TV Receivers	1 per class per TV Channel at the grade level having the greatest number of selections	1 per 1 (If programs are available)	
Micro - Projectors	1 per school	1 per 2	
Record Players	1 per K-3 1 per grade level 4-6	1 per 1 plus listening corner ear phones	
Projection Carts	1 per piece of portable equipment	1 per 5	
Radio Receivers AM-FM	1 per building	1 as instructional needs dictate	1 per 1 and central antenna if needed
Projection Screens	1 - 70 x 70 per 1 plus auditorium	additional for individual and small group instruction	
8 mm Projector	1 for experimentation	Still in developmental stage	
Sound FS Projector	Use available FS Projector and record player	1 per building	1 per building
3¼ x 4 Projector	Optional	Optional	Optional
Video-Tape	2 per district	no specific recommendation	

TABLE II EQUIPMENT STANDARDS (CONTINUED)

Elementary Education

Type of Equipment	Basic per Teaching Station	Basic per Teaching Station	By 1967 per Teaching Station
Local Production Per School	Dry mount transparency product primary typewriter Spinit duplicator Polaroid 35 still camera film splicer tape splicer	plus mechanical lettering 8 mm camera photo accessories copy camera and stand	

TABLE III EQUIPMENT STANDARDS (CONTINUED)

Secondary Education

Type of Equipment	Basic per Teaching Station	Basic per Teaching Station	By 1967 per Teaching Station
16 mm Projector	1 per 10	1 per 5	1 per 2
2 x 2 Automatic Slide Projector	1 per building	1 per 10	1 per 2
Filmstrip Project	1 per 10	1 per 5	1 per 3 plus individual viewers
Filmstrip Viewer	1 per 3	1 per 1	plus quantity from central source
Sound Filmstrip Projector	Use existing FS and record player	1 per building	
3¼ x 4 Projector (overhead)		1 per building	1 per school district
3¼ x 4 Projector (auditorium)	1 per auditorium	1 per auditorium	
Auditorium Type Overhead Projector	Appropriate number for large group instruction		
Opaque	1 per building	1 per floor	
TV Receivers	1 per department where stations are available	1 per 24 viewers	
Micro - Projector	1 per school	1 per department	
Record Player	1 per 10	1 per 5	
Tape Recorders	1 per 10	1 per 5	
Radio Receivers AM-FM	3 per building	1 per 10	1 per 5
Projection Screens	1 per 1 70 x 70 with Keystone eliminator	1 per 1 70 x 70 with Keystone eliminator	
Production Equipment per school	dry mount paper cutter transparency maker 16 mm camera 8 mm camera Polaroid darkroom Spivit duplicator primary typewriter copy camera	plus slide reproducer additional transparency equipment mechanical lettering press type camera	

CHAPTER III

OBJECTIVES OF THE STUDY

It was planned to approach the State of Colorado with two types of programs: Program Plan A, a program in breadth, and Program Plan B, a program in depth. One of the primary objects of this study was to try to determine which of these two methods, a breadth or depth approach, was the most desirable method of disseminating educational media information.

The demonstration program was founded on the premise that the planning for and the acquisition, utilization, and evaluation of educational media could be improved only as rapidly and with such quality as was reflected in the understandings of the classroom practitioner, the policy maker, and the school patron. Efforts to improve and increase the understandings of those who assist in determining the educational provisions for children must be applied simultaneously and articulately so as to derive all possible benefits. Additionally, increased insights were needed by educational practitioners into the relative merits of specific techniques of dissemination of educational media information.

Two operational plans were tested -- Program Plan A, saturation in breadth, and Program Plan B, saturation in depth. The objectives of Program Plan A were (1) to saturate Colorado with demonstrations, presentations, and educational experiences through the use of educational media designed to acquaint and inform all persons about such media (2) to provide near saturation coverage of all interested persons in Colorado by presenting demonstrations especially prepared for professionals and school patrons (3) to provide the opportunity for all teachers from forty-two host schools to see the educational media in use in their own classrooms, and provide them with equipment and materials for private experimentation (4) to provide the opportunity for school administrators, school board members, and interested patrons from the participating school districts to become informed about improved learning opportunities, program provisions, budgeting, staffing, and audiovisual techniques through presentations especially designed for each group.

The major objective of Plan B was to provide specific demonstrations, presentations, and educational experiences to approximately eight school districts and to make a depth study of their media programs with the explicit intention of developing effective media programs in these school systems. Program Plan B was offered in two phases, (1) a consulting phase, and (2) a teaching phase.

In addition to the two demonstration plans, a control plan, Plan C, was operative. School districts participating in this plan were asked only to furnish pre- and post- project data. At the termination of the project the team was to conduct an audiovisual workshop in these schools.

Illustration #3: CAVA members

CHAPTER IV

ORGANIZATION AND PROCEDURES

The Organization of Plans A and B During the Academic Year 1964-1965.

Selection of Host Schools -- All public schools in the eastern half of the state were sent a general news release announcing the project and briefly describing its purpose.

Twenty-one of these school districts were identified as being potential hosts for providing the physical facilities for the demonstrations.

Immediately following the tentative selection, the appropriate school district superintendents were sent a letter further describing the project, detailing the responsibilities of the host school and of the project staff, and requesting an indication of interest in hosting the demonstrations by agreeing to participate in either Plan A or Plan B.

Two schools were asked to act as control groups for the duration of the project with the understanding that, at its termination, the demonstration team would visit the control schools and conduct an audiovisual workshop.

The host schools were selected on the basis of (1) indication of interest, (2) convenient geographic location for visitation by surrounding participating schools, (3) assessed evaluation per ADA, and (4) size.

School districts which employed full-fime audiovisual coordinators and had well-developed media programs were excluded from participating as hosts. Audiovisual directors and university instructors participated as team members. Upon selection, the host schools were asked to assign a staff member as local coordinator for the purpose of communications with the project staff. The local coordinator was to assist the study team in collecting and gathering baseline data, determining a schedule for further evaluation in the school and community, fixing the schedule for the demonstration, assisting the demonstration team in the workshop, and conducting a follow-up program after the team's departure.

The remaining eastern Colorado schools made up of those not selected as hosts received letters requesting them to attend the demonstrations. They were asked to participate in the evaluation of the project by furnishing baseline data and later evaluative information. The visiting schools were grouped similarly to host schools for the purpose of evaluation.

One means of determining host schools was outlined in the proposal. However, the method was altered slightly to insure validity of the design.

Because of unknown variables, certain complications arose which made Program Plan B at Limon, Colorado, seem much less effective than the other three Plan B's. Undoubtedly, the absence of the audiovisual course was one reason why the program seemed less dynamic.

An important consideration in determining Plan B host schools was to select schools which could support a media program. Pueblo, Castle Rock, Haxtun, and Limon were chosen for Plan B programs (See Appendix A Map, page 74). Because of certain complications, the media utilization course was not taught at Limon. This made their Plan B program much less effective than the other Plan B operations.

Plan A and Plan B schools on the western slope (western half) were selected during the Spring of 1965. The same procedure was employed to select eastern slope schools. Twenty-one Plan A host districts were selected. Durango, Gunnison, Craig and Rangely were selected as Plan B sites.

Mr. Jack Prince, the first Project Director, left the Project June 30, 1965. Mr. Lee Green took over the Project August 1, 1965.

The Organization of Plan A and B During the 1965-1966 Academic Year. Twenty-one Plan A and four Plan B host schools were already selected when Mr. Green took over the Project. A letter was sent out to all the participating districts introducing Mr. Green and confirming the program dates set up by Mr. Prince.

An exploratory trip was made to Gunnison and Durango to discuss the Plan B program with administrators there. Numerous phone calls also helped clarify the program.

One basic problem encountered was the vast area to be covered in the year allotted. To conserve time and money, several Plan A's were grouped in an area. It was necessary for the director and team to stay in an area for several days. Many of the team members during the 1964-1965 operation could not be away from their jobs for that length of time. New teams were formed by utilizing personnel from western Colorado. However, it was often necessary for team members to travel 150 miles over icy mountain roads to reach the demonstration school.

Illustration #4: Dr. Harold Bowman and a Plan B workshop.

CHAPTER V

IMPLEMENTATION DURING THE ACADEMIC YEAR 1964-1965

Beginning operation of the ETD Project. The plans of operation envisioned in the original proposal were rather carefully followed. Basic procedures were altered only when necessary to produce greater program efficiency, interest, and participation by the schools. A school assisted in determining its own project activities schedule.

In the beginning weeks of preparation for the tour, the demonstration team had difficulty in locating and accumulating appropriate visuals for the demonstration. Because of the press of time, the Lewis-Kemp media demonstration kit was adopted for the project. This kit was then modified by supplementing locally produced materials especially suited to the needs of eastern Colorado. The demonstration was 1½ hours, and discussed dissemination, teaching, and learning as being problems of communication. A brief survey of available equipment and materials completed the presentation.

Development and training of media teams. The Colorado Audiovisual Association played a key role in the success of the ETD Project. Unfortunately, fewer than one-third of the members assisted with the demonstration workshops. Most of the team members were audiovisual personnel from larger school districts, colleges, and universities.

The names of key personnel who served on the team during the 1964-1965 school year are listed below:

Frank Anderson
Harold Bowman
Richard Bell
Lee Green
William Grimes
Donald Gundel
Charles Holmes
Robert de Kieffer
Harold Lord
Bernard McGowan
Glenn Phillips
Paul Truitt
Gene Waldmann
Charles Woodliff

Other CAVA members who were unable to serve on the demonstration teams but who contributed in other ways are:

Robert King	Mary Scofield
William Murray	Erne Shubert

The demonstration teams were briefed during the early summer, 1964 in media demonstrations by Dr. Jerrold Kemp, a former team member of the National Workshop in Educational Media Demonstrations.

The remainder of the summer was spent in preparing and accumulating materials. Materials were designed to fit the specific needs of the host schools as revealed by baseline data. However, due to a late start by the Project, baseline data was not made available to the teams. Therefore, specific materials were produced as demonstrations occurred. The staffs and facilities of the cooperating college and university were made available to the teams. Dr. Robert de Kieffer and staff at the University of Colorado worked diligently on the Project from its conception. During several of the early demonstrations, Dr. de Kieffer supplied much of the necessary equipment.

The Plan B program at Castle Rock and Pueblo County were successful, largely because of the efforts of the University of Colorado team.

Complimenting these services, Dr. Harold Bowman offered the services and facilities of the Instructional Materials Center at Colorado State College. The success of the Plan B program at Haxtun is due to the efforts of Dr. Bowman. He also served as an intermediary resource person with the Colorado State College evaluation team.

The Contribution of the equipment dealers. The Colorado audiovisual equipment dealers made a unique contribution to education in Colorado. None of the equipment used was purchased by the ETD

Project. Dealers loaned the equipment on a year to year basis. If local dealers were unable to provide special equipment such as 8 mm sound motion pictures, and a district requested a demonstration of this equipment, dealers were asked to demonstrate or loan the equipment to that district. The cost of the loan equipment was borne mostly by the local dealer.

The ETD mobile unit. A Ford Econoline van was purchased by the Department for transporting teams and equipment. "Educational Technology Unit" was painted on the sides of the van. A shock resistant equipment storage platform was installed over the floor of the van. A wooden storage cabinet was installed on the right wall, just above the wheel well. On the left side, a large piece of peg board was fastened.

The van proved adequate for the first year's operation on the relative flat terrain of eastern Colorado.

Utilizing team talent. Unfortunately, not all the team members, were proficient in the various workshop activities of the Project. Many of the team members had ability in only two or three workshop areas. Team members were scheduled as nearly as possible so as to meet the specific needs of the district. Schools had the opportunity prior to the team's visit to select workshop activities that they felt they needed most.

Workshop kits. Much time and energy was lost searching for items and then assembling them for the workshops. The best answer to this problem was to create kits ready for immediate use. Consumable items would be replaced and the kit made ready for the next workshop.

Reactions to the Plan A Program. Generally, teachers and administrators reacted favorably to the demonstrations and workshops. If the groups in Plan A were very large, individual participation was very limited. At times the 3½ hour afternoon sessions were too long.

The more time we spent with administrators, the greater was their interest. Some of their statements were, "We're glad you came"; "The Department of Education is doing a good job"; "Come back again soon"; and "This is a fine program".

Board members, much to the amazement of the teams, were the most receptive groups with which to work. Most of them knew little about audiovisual, but were very interested. The team usually explored several points suggesting how their programs might be improved through better use of existing facilities and the implementation of an organized media program. Unfortunately, we found only the board members from the host school usually attended.

Although the program was well publicized, not many school patrons attended the demonstration. These patrons often expressed concern about the lack of interest on the part of other patrons. Many schools no longer have a PTA. The team concluded from experience that programs sponsored by the PTA were not well attended. Other civic organizations such as Rotary and Lions were much better attended.

The team found that the more specific a person could be regarding suggestions for the improvement of the local program, the more interest and effect the ETD program had. Local boards and administrators wanted to improve educational opportunities for their children, and wanted specific ideas.

CHAPTER VI

IMPLEMENTATION DURING THE ACADEMIC YEAR 1965-1966

Changing ETD directors. Mr. Lee Green took over the project August 1, 1965. Mr. Prince had already selected the host schools so only the implementation remained. Some of the districts had new superintendents who had to be informed concerning the program. New Letters of Agreement were sent out to these superintendents. Letters confirming the dates of the demonstrations were also sent out.

Team Members. Not many members of the first year teams could participate in the second year team. Because of the travel distance involved, the Director often stayed out in the field three days to a week. Most audiovisual directors could not be away from their jobs this long.

It was decided to use western slope personnel as much as possible. The director wrote to all members of CAVA who were located in the western part of the state. They were asked if they were willing to assist the Project. If they were, they were scheduled for the closest workshop. They were asked to arrive at the host school by 10 a.m. The Project Director then gave the team as much inservice as time allowed. Some team members assisted in several workshops. Some of the key personnel who served during the 1965-1966 school year are listed below:

Gene Daniels
Patricia Fink
Donald Green
Justine Irwin
Junior Karas
Robert King
Richard Lennox
Harold Lord
Sargent Schmidt
Curt Sweet
Paul Truitt

Other CAVA members who were unable to serve on the demonstration teams, but who contributed in other ways are: Jack Prince, Mary Scofield, Alice Spengler.

Organizing the Plan B Programs. Four Plan B programs were set up. The press of time and the difficulty in reaching personnel during the summer created a problem in starting the Plan B programs. Mr. William Grimes and the Director made a survey trip to Gunnison and Durango, the two Fall Plan B sites. Mr. William Stobaugh at Western State College was contacted to teach the Plan B at Gunnison for the University of Colorado Extension. However, Western State College would not permit Mr. Stobaugh to teach a Colorado University Extension course. This problem was resolved by offering the media utilization course to be sponsored by Western State College. Mr. William Grimes, Instructor at Colorado University, taught the Plan B at Durango.

The Spring 1966 Plan B programs were at Craig and Rangely. Mr. Robert King taught the course at Craig for the University of Colorado Extension. Dr. Harold Bowman, Director of the I.M.C. at Colorado State College, taught the Rangely course.

A great deal of credit should go to William Grimes, Robert King, and Harold Bowman who traveled over icy roads and through blizzards to teach these courses.

Teachers in the Plan B courses were required to develop an audiovisual project on a unit of study. These projects were presented to the group at the end of the course. Many teachers stated that they worked many extra hours preparing for this course.

A team visited schools in the Plan B areas and a consultative service was offered to each district. The team took the district's present program and sought to help them develop an audiovisual program. The team met with teachers, administrators, and board members. Specific recommendations were made to assist districts to better utilize present equipment and materials and to plan a future program.

A new plan of operation for 1965-1966 school year. The operational plan for the ETD Project called for demonstrations and workshops to be limited to Colorado east of Denver during 1964-1965. The rest of the state, roughly all that west of Denver, was to be covered in the second year of operation. When one looks at a map, it is obvious that almost 2/3 of Colorado lies west of Denver. Many of the western Colorado schools are separated by rugged mountain ranges. It took nine hours to drive from Denver to Cortez. It was apparent that a different plan of operation was necessary because of the rugged terrain and vast distances to be covered.

It was decided to hold several Plan A's in an area during the week. Because the van was heavily loaded and underpowered for mountain driving, it was parked at a local school district garage. The Director returned to Denver for the weekend by air or State car. On the date scheduled for the next Plan A, he picked up the van and drove to the host school. Plan A's were grouped starting with the most distant from Denver and working back closer to the home and office. The most distant Plan A's were completed before inclement weather set in. The first Plan A was located at Cortez which was a nine-hour drive by van. The last plan A was held at Idaho Springs just twenty-five miles west of Denver. The plan of operation worked very well.

Highlights from the Plan A program. Attendance at the Plan A demonstration and workshop ran from 20 to 400 teachers. This demanded a great deal of flexibility. Team members met the Director at the Plan A location. The equipment was set up and the team members and Director worked out a plan of action to meet the needs of that district. The administration and local Project Director were involved in planning the type of workshops to be held.

The Kemp 8 mm concept film set on dry mounting, overhead transparencies and lettering were used. On several occasions, the Director had 100 to 200 teachers in a workshop. Three concept film projectors were set up with two sets of the Kemp films, teachers were divided into small groups each having a monitor in charge. Groups would begin by watching the concept films. Step by step procedure sheets were handed out. The procedure sheets paralleled the films, but would remain with the teachers after the project had moved on. When the teachers felt that they understood the process, they would begin work. Materials and equipment were provided.

The strong emphasis on individual teacher participation was warmly received by the teachers and administrators. Teachers were told to make materials that they could use in their classrooms. Teachers often stayed beyond the workshop hours to work on special projects. No limit was placed on the amount of materials a teacher might use. It was emphasized that they could make as many visuals as they wanted, but must use what they made.

Two workshops were best received. Overhead transparencies and dry mounting of inexpensive materials, the complete set of Thermo-Fax art work and certain Diazo process art work were carried on the van. Teachers often made a complete set of overhead transparencies for a unit of study.

Teachers often came to the demonstration with the attitude that this was just another demonstration. Many teachers became most enthusiastic when they were permitted to manipulate the equipment and materials.

Even though the Plan A workshops were only 2 to 2½ hours, several noteworthy activities resulted from them. The Cortez school district asked for a complete district-wide survey of their district. A team of CAVA members and the Director made the survey. As a result, the curriculum director applied for a media institute the following summer. He was accepted and attended the institute at the University of Colorado. In several cases, districts asked for an evening session so that teachers might come voluntarily and get more help. A number of requests were received for workshops from schools not scheduled for Plan A workshops.

The evening programs for school boards and interested patrons. Although these sessions were adequately advertised, the team never knew how many, if any, of the patrons would attend. In most of the districts, at least several members of the board would attend. The team found that the board members were very interested and asked many questions about materials and types of equipment. In several districts, the board of education were ranchers who were scattered for some distance. They requested permission to attend the afternoon session. In one instance, the entire school board attended a workshop session.

The attitude of the school administrators. Most administrators were quite enthusiastic about the program. Some were concerned that teachers would ask for "all the equipment" as soon as the team left. Some superintendents remained quite isolated from the project and did not attend the workshop program. However, most of the superintendents came to the one hour presentation, and/or the evening session. A number of the superintendents of smaller districts became involved in the workshops and worked along with their teachers.

Overall the ETD project was enthusiastically received by Administrators, Board Members, and Patrons. A number of administrators stated that the sessions were very helpful and would assist them in purchasing equipment. A number of letters of commendation were sent to the Colorado Commissioner of Education, Dr. Byron Hansford.

The inadequacy of the van. The Econoline van was purchased in 1964 and appeared to be adequate for the level terrain of the eastern Colorado plains. However, in the mountains it proved to be under powered. In November, while en route to a Plan A demonstration, the van skidded on a patch of ice and tipped over in a barrow pit. Funds were not available to repair the quite extensive damage. A station-wagon was used to complete the project. Although not as much equipment could be hauled, the wagon proved to be a better vehicle for the long distances in the mountains. A one ton panel truck would no doubt be a stronger and more utilitarian vehicle for mountain travel.

Summary of the Plan A Program. An example of the Plan A Program will be presented in the next chapter. However, it should be pointed out that the demonstration was revised from the previous year. The section on Educational TV was modified. Broadcast ETV is not available presently to most of the mountain communities. The presentation time was reduced from 1½ hours to a little over one hour. The presentation consisted of: (a) a rationale for the use of media; (b) the dangers of oral communication or verbalism, and; (c) a brief survey of communicative tools available to teachers and schools.

The director sought to make teachers, administrators, board members, and patrons aware that: audiovisual plays a vital role in communications or teaching, that the use of media increased the productivity of teachers, and that many audiovisual tools are not expensive. The team did not promise that the use of media would reduce the cost of instruction, replace the teacher in the classroom, or reduce the workload of the teacher. It is hoped that the presentation reshaped the thinking of many concerning audiovisual, and that teachers will consider audiovisual as vital to good communications rather than a frill or frosting on the cake.

Illustration #5: Lee Green, ETD Director, discussing a problem.

Illustration #6: Plan A workshop.

CHAPTER VII

A TYPICAL PLAN A SCHEDULE

Arrival at the Host School. The team usually arrived at the host high school by 10 a.m. The team became acquainted with the staff and physical facilities of the school. School facilities varied widely. Some schools were built as early as 1870, others were brand new. The team inspected the classroom facilities and audiovisual equipment owned by the school. The team usually visited with the superintendent for a few minutes to outline the program again and to see if he had any questions about the ETD project. The team discussed possible workshops and the workshop approach was tailored as much as possible to the needs of the district. The local project director was contacted and physical facilities inspected. Locations for the presentations and workshops were selected. Most of the presentations were made in the gyms. Many of the workshops were held in Home Economics rooms, cafeterias, libraries, team teaching rooms, and gyms. The availability of electrical outlets usually determined where the workshops would be held.

Setting up the equipment. Student help was used to unload the van and carry the equipment into the school. It took at least one hour to set up the equipment for the presentation. A routine was worked out by the director that simplified the operation. All the workshop equipment and materials were packed in Army footlockers. They were carried to the workshop location and the material quickly set up. The project directors had received prior instructions on the number of tables, chairs, and extension cords that would be needed. In most cases this equipment had been collected and was ready when the team arrived.

The multi-media presentation. School was usually dismissed between 12 noon and 12:30 p.m. The presentation began at 1:00 to 1:30 p.m. In some cases it was necessary to wait to begin until teachers from a remote school had arrived. The one hour multi-media presentation utilized two screens, a 16 mm, Carousel, overhead tape recorder, and other equipment (See Appendix A, page 85). The director was assisted by one of the team members. If time permitted, the team made a practice run of the presentation. In some cases, the director operated all the equipment except the 16 mm. Other times a team member operated much of the equipment. It depended upon the proficiency of the team member. (See Appendix A, page 75 for a list of demonstration equipment.)

The workshop sessions. Teachers were asked to choose the workshop in which they were most interested. They could only attend one workshop because of the limited time. The lack of time was one of the basic weaknesses of the ETD Plan A program.

As stated before, teacher involvement was stressed. Only a short orientation session was held and then teachers went to work. Most workshops lasted until 5 p.m. with a number lasting until 6 p.m.

The meeting with the local Board of Education. The Plan A program called for an optional informal dinner meeting with the Board of Education. In the majority of cases the team had dinner with the board. Some difficulty was encountered because of harvest time duties of members of school boards. The dinner meeting broke the ice and helped team members to talk informally about media and schools.

The evening meeting. Both patrons and school board members were given a special presentation and demonstration of equipment. This meeting was kept as informal as possible with the audience invited to ask questions. Smaller equipment and materials were passed around for the audience to examine. After the demonstration, the audience was invited to come up to the equipment tables and to operate or manipulate any materials or equipment. Patrons and board members were permitted to make overhead transparencies, project them on the screen, operate a 16 mm projector, tape recorder or micro projector.

Packing up. The evening meeting usually lasted until 9:00 p.m. The team then packed up the equipment and loaded it into the van. Often school administrators or patrons gave a hand. The van was usually loaded by 10:00 p.m. and the team thanked the project director and others for the opportunity to come to their school. The team either returned to Denver or to a motel if the distance was too great.

Illustration #7: Plan A workshop.

CHAPTER VIII

A TYPICAL PLAN B

Phase I and II of Plan B. This program was comprised of a series of visitations by audiovisual consultants to approximately eight school districts in Colorado. Before a teaching-consultative program, a team of consultant-evaluators would hold a one day evaluation of the school district's audiovisual program to determine the current status of the media program, administrative procedures, board policies, equipment, and facilities, budget provisions and related factors.

Two phases of operation were initiated by the Plan B program. Phase I provided guidance to the district in matters relating to the development of the schools' audiovisual program or a cooperative program with a nearby school. Phase I was carried out through the development of activities designed to consider fully the unique characteristics and needs of the school or cooperating schools. Phase I sought to effect the establishment of a formal audiovisual program in the school or between cooperating schools. It was designed primarily for administrators, board members, and audiovisual coordinators. However, in recognition of the need to inform school patrons of the value of the use of instructional materials and the need to provide for their closer participation in policy determinations, special demonstrations, similar to those provided in Program Plan A, were presented.

Phase II of Program Plan B involved the schools participating in Phase I and was carried on concurrently with Phase I. This phase included the teaching of communication theory, utilization of materials, development of production and operation skills, and self-evaluation and inventory. Phase II was directed toward teachers and supervisors and sought to maintain a proper balance between the administrative provision and organization established in Phase I and development of theoretical understandings and teaching skills in Phase II.

A ten-week program was conducted with individual school districts and/or two school districts within close proximity (See Appendix A, page 80). The content plan for sessions held with teachers, school administrators, and interested patrons is as follows:

Description of a Two-Phase Program:

First Day -- Team arrived and set up equipment for the afternoon and evening presentations. Gathered information, visited classrooms and discussed program requirements with administration.

Phase I -- 3:00 p.m. to 5:00 p.m. -- Teachers and Supervisors

1. General Orientation
2. Overview of the Program

Phase I -- 7:00 to 9:00 p.m. -- School Board and Administrators

Status Report of the Visitation Team and Plans for the Program.

Second Day --

Phase I -- 9:00 a.m. to 3:00 p.m. -- Visited Within School A

Phase II -- 3:00 p.m. to 5:00 p.m. -- Meeting with Teachers

1. Review of Visitation; Question and Answer Period
2. Theory of Audiovisual Utilization
3. What Does It Mean to Teach?

Fourth Week

First Day

Phase II -- 3:00 p.m. to 5:00 p.m. -- Meeting with Teachers

1. General Presentation -- Communication and Learning Theory
2. Possible Split Session (i.e., elementary and secondary, of/by media interest)

Phase I -- 7:00 p.m. to 9:00 p.m. - Meeting with PTA and Patrons General Presentation

Second Day

Phase I -- 9:00 a.m. to 3:00 p.m. -- Visitation Within School B

Phase II -- 3:00 p.m. to 5:00 p.m. - Meeting with Teachers in School B

Repeat of the first week, second day, as given of School A

Seventh Week

First Day

Phase I -- 3:00 p.m. to 5:00 p.m. -- Meeting with Teachers

1. General Presentation -- Media and Their Uses
2. Possible Split Sessions (i.e., elementary and secondary, or by types of media)

Phase I -- 7:00 p.m. to 9:00 p.m. -- PTA and Patrons, School A General Presentation (Similar to Fourth Week Presentation) to PTA and school patrons in School B

Second Day

Phase I -- 9:00 a.m. to 3:00 p.m. -- Visitation in School A

Phase I -- 3:00 p.m. to 5:00 p.m. -- Meeting with Teachers Continuation of discussion and presentation of fourth week to School B

Tenth Week

First Day

Phase I -- 3:00 p.m. to 5:00 p.m. -- Meeting with Teachers and supervisors

1. Report by Teachers' Committees
2. Summary of the Program

Phase I -- 7:30 p.m. to 9:30 p.m. -- Meeting with both School Boards

1. Summary of administrative needs and suggestions for future development

Second Day

Phase I -- 9:00 a.m. to 3:00 p.m. -- Visitation within School B

Phase I -- 3:00 p.m. to 5:00 p.m. -- Meeting with Teachers School B Continuation of seventh week discussions

Credit course work offered either on a quarter system or a semester plan was included as part of the total program based on teacher need and interest. This program included meetings in addition to the general required meetings as follows:

Three-hour semester system -- Teachers met three hours per week for a ten-week period.

Three-hour quarter system included meetings two hours per week for a ten-week period.

Teachers desiring undergraduate or graduate credit for this course enrolled at the time of the first week's sessions. These additional meetings included laboratory periods and demonstrations in depth similar to any standard course given on college campuses throughout the United States.

Course Outline. A typical Plan B course outline is listed in Appendix A, page 77 along with the audiovisual equipment and materials/ A typical demonstration set-up is also presented. (Appendex A, page 85)

CHAPTER IX

METHOD

Introduction. The evaluation of the Educational Technology Dissemination Project was done by the Bureau of Research Services of Colorado State College under the direction of Dr. Herbert Hughes. Two reports were made by the Bureau. The first was completed during the fall of 1965 and the second at the end of the 1965-1966 school year. Appreciation is expressed to the persons named below who contributed much time and faithful effort to the completion of this project through service as members of the evaluation team.

Barry Barnes	Roger Cunningham
John Cleveland	Morton Flax
Lester De Boer	Wayne Lerand
Edward Krahmer	Robert Segerstrom
Paul Nornes	John Williams

Marvin Spracklen

Participating schools were assigned to three conditions: Plan A host, Plan B host, and Non-host. The forty Plan A schools were those involved in a breadth approach to dissemination. Eight Plan B schools were those involved in a depth approach to dissemination. Non-host schools were those either not invited or declining an invitation to the 1964-1965 ETDP demonstrations. These schools acted as controls so that the relative effectiveness of Plan A and Plan B could be assessed.

Evaulation Instruments. Four instruments were used to gather data for evaluating the effectiveness of the dissemination efforts. Of these measuring devices, three were developed specifically for this project and the fourth, the Audiovisual Inventory, came from the work of Ramsey (1961). The first instrument, the Central Facilities Checklist, is a structured interview designed to be completed during a personal discussion with a person intimately informed about the financial and administrative aspects of a school district's audiovisual facilities. Second, is a paper-and-pencil questionnaire, the School Facilities Questionnaire for Administrators and Audiovisual Directors, (School Questionnaire), intended to measure present usage of audiovisual media, their adequacy, and plans for improvement. The Teacher Audiovisual Questionnaire, (Teacher Questionnaire), was the third instrument developed by the Evaluation Team. It was designed to measure those audiovisual practices and opinions which pertain to individual teachers. The fourth and final instrument, the Teacher Audiovisual Inventory, developed by Ramsey, is a 39 item attitude scale which reflects beliefs and values relative to the importance of audiovisual practices in the schools. A copy of each of these instruments is included in Appendix B.

Instrument Development. The three instruments developed by the Evaluation Team were based upon general categories suggested by the Evaluative Criteria for Audiovisual Instructural Materials Services prepared by the Committee on Evaluation of Secondary Schools of the Department of Audiovisual Instruction.

Central Facilities Checklist. All questions which would not be likely to change over the period of a year, such as amount of equipment and material owned by the school district, were included in this instrument. Also included were questions requesting descriptive data about audiovisual practices, such as ordering and scheduling procedures, storage areas, the duties of the audiovisual director, and procedures for staff instruction.

School Questionnaire. Included in this instrument are 45 items referring to specific audiovisual equipment, ordering, scheduling, transportation, student interest, money available, and the qualities of the audiovisual director. Each respondent was asked to reply to three questions with reference to each of these items. The three questions are: (1) Are the following items used by most of your faculty? (2) Do you consider the following to be adequate in your school? and (3) Do you plan to make improvements on each of the following? The original questionnaire was completed by a small number of Colorado State College summer students who are teachers or administrators during the regular year. These students were asked to criticize the instrument as to content, arrangement, and wording. The suggestions were incorporated into the final design of the instrument.

Teacher Questionnaire. An attempt was made to consider the same general areas on this questionnaire as on the School Questionnaire designed for administrators so that comparisons would be possible between teachers and administrators. On some items the response scale was merely yes or no, while on others a five point rating scale for very adequate to very inadequate was employed. A final question asked the teachers to estimate the amount of time per week, per class spent on the average with each of eight audiovisual items. The instrument was pretested and revised on the basis of data obtained from the summer student group discussed above in connection with the School Questionnaire, as well as on the basis of experience with schools in the Eastern half of Colorado.

Color Coding. A system of color coding was devised to facilitate efficient handling of the different instruments and to eliminate some of the confusion caused by the similarities in names. All teacher instruments were yellow. The administrator instrument was green. The Central Facilities Checklist was pink.

Teaching-learning Process Analysis Inventory. This instrument, developed by Luker, McLain, Koplitz and Shaw, was administered in the pretest phase of the evaluation to teacher and students in ten of the western Colorado schools. Because of the time and personnel required to administer this instrument to individual classes of students, it was not included in the posttest battery. As a consequence, changes from pretest to posttest are not available as evaluative measures. A complete description of this data may be found in the report of DeBoer and Spracklen. (1965)

Evaluation Procedure for the Eastern half of Colorado. The twenty-three school systems visited by one Evaluation Team member and the eight additional school systems visited by the entire Evaluation Team were all visited during September and October of 1964.

The first contact the proposed host school systems had with the ETDP Project was an explanatory letter from Byron W. Hansford, Commissioner of the Colorado State Department of Education. This letter described the procedures to be followed by the State Department of Education in conducting the ETDP Project and also mentioned the descriptive survey to be conducted by the Evaluation Team. The Evaluation Team contacted each proposed host school system both by letter and by telephone to request approval and to arrange a date for visitation. The non-host school system randomly selected for One Member visitations were contacted by telephone. Beacuse the non-host school systems had not received the letter from Byron W. Hansford, it was necessary to explain the ETDP Project before requesting approval for visitation.

The thirty-one school systems involved in this study were visited by one Evaluation Team member. Approximately two school systems were visited each day. A copy of the Teacher Questionnaire was left with each teacher of grades seven through twelve in the small systems and with a random sample of the teachers in the larger school systems. The questionnaires were returned to the school office upon completion and mailed to the Evaluation Team.

The administrative staff and audiovisual director in grades seven through twelve received copies of their forms of the School Questionnaire. These were also returned by mail to the Evaluation Team upon completion.

The Central Facilities Checklist was completed by one Evaluation Team member based on information gained from interviews with the administrative staff and/or the audivisual director.

In the eight school systems visited by the entire Evaluation Team the procedure outlined for One Member visitations were carried out by one team member while the other three team members visited classrooms. These three team members visited at least four classes and their teachers at each of the grade levels - eight, ten, and twelve. At each grade level, an attempt was made to visit at least one class of English, mathematics, science, and social studies. Because of the need for sufficiently large classes and the limited number of periods available in some schools, it was necessary to select classes in conference with the principal upon arrival.

A standard procedure was followed during each classroom visit. The team member assigned to a particular class was in the classroom before the period started. A standard procedure was suggested to teachers to use in introducing the team member. After the introduction, the team member briefly explained the testing procedure to the students and teacher. A copy of the Teaching-Learning Process Analysis Inventory and an IBM 503 answer sheet were distributed to each student and the teacher. The teacher was also given a copy of the Audiovisual Inventory. The team member read aloud while the students and teacher read silently the directions given on the front of the Teaching-learning Process Analysis Inventory. The students were also referred to the final page of the instrument where eleven items concerning classroom usage of audiovisual equipment were printed. There was no time limit on either of the instruments so both teacher and students were able to work at their own rate until finished. The team member was available at all times to answer questions and to check and collect the completed instruments. A normal class period was adequate for administration of the instruments.

The data collected in eastern Colorado do not include a post-test following the dissemination efforts and therefore are not of value in assessing change. The information may be of interest to those wishing to learn of the state of affairs to be found in 1964 and is available in Cleveland, J.C. and Krahmer, E.F. (1965) and DeBoer, L.J. and Spracklen, M.S. (1965)

Evaluation Procedure for the Western Half of Colorado

Pretest:

Thirty schools in western Colorado were tested in March of 1965 in anticipation that they would serve either as host schools for the dissemination project or as non-host schools for purposes of experimental comparison. Ten of these schools were visited by a team of two to four investigators. The other twenty schools were visited by a single research assistant.

The first direct contact the proposed host school systems had with the ETDP Project was an explanatory letter from Byron W. Hansford, Commissioner of the Colorado State Department of Education. It was assumed that the school systems would be familiar with the project from information published in State Department publications. The Evaluation Team contacted each proposed host school system by telephone to request approval and arrange a date for visitation. The non-host school systems randomly selected for visitations were also contacted by telephone. These school systems had not received a letter describing the ETDP Project but were somewhat familiar with the project from information printed in State Department publications. A request for permission to visit the school system was made in this telephone call.

A basic difference between the procedure used in the eastern half of Colorado compared to the western half was that only high school grades 9 through 12 were involved in the data collection. It was possible to visit approximately three of the twenty high schools selected for One Member visitations each day.

Copies of the Teacher Questionnaire were mailed to the high school principal along with a cover letter requesting that he distribute them to his staff in grades nine through twelve. There was a cover letter with each instrument asking the teacher to complete the instrument, seal it in the envelope provided, and return it to the school office where the team member could pick it up on the visitation day. At that time, it was also possible to visit with each teacher who did not complete the instrument and discuss the reasons for not returning it.

The administrative staff and audiovisual director for the same schools also received copies of the School Questionnaire. These were also completed so that the team member could pick them up on the day of visitation.

In addition, copies of the Audiovisual Inventory for each teacher who taught at least one class of English, mathematics, science or social studies were mailed to the twenty schools which were not visited by the entire study team. These forms were also picked up on the day of visitation.

In the ten schools visited by a team of investigators, the same grades and classes were visited as in the eastern half. An attempt was made to test the students and teachers in at least four classes at each of the grade levels - eight, ten, and twelve. The procedure for the Central Facilities Checklist, the School Questionnaire, and the Teacher Questionnaire were the same as in the schools visited by a single investigator.

Western Half of Colorado

Posttest:

Since the Teaching-learning Process Analysis Inventory was not administered in the posttest battery, it was not possible for all schools to be tested by a visit from a single investigator. Because of changes in the schools actually participating as host schools, only twenty-eight schools were visited - eighteen host schools and ten non-host schools. All visits were conducted during the month of May, 1966.

The procedure followed very closely the procedures employed in the pretest for the schools visited by a single investigator. All schools to be visited for the posttest were contacted by telephone to elicit cooperation on the final phase of evaluation. At this time a date for the visit to the school was confirmed.

Approximately two or three weeks prior to the visit a package of instruments was mailed to each school. Included were two copies of the School Questionnaire - one for the high school principal or superintendent and the other for the audiovisual director. In addition, the packet contained a supply of the two teacher instruments sufficient to provide one for each teacher in the high school. In the case of undivided secondary schools, the instructions asked that instruments be distributed to all teachers with at least one section of English, mathematics, science, or social studies in grades 9 through 12. Envelopes were provided so that all returns could be sealed and accumulated in the school office to await the visit of the Evaluation Team investigator at which time they were picked up. Some difficulty was encountered in obtaining cooperation from a few schools. These were primarily non-host schools who had not been involved directly in the State Department program and had little to gain in exchange for the time required to complete the questionnaires. A part of the difficulty, judging from informal comments, was caused by the fact that the schools felt in some cases that there had been insufficient communication back to the schools of the findings from last year's study. To minimize this feeling on the part of schools, a short summary was reproduced from the 1965 report and mailed to each school together with a promise of a complete report when the project is completed this summer.

Sample Selection. The Colorado State Department of Education selected host schools for the ETD Project from school systems with high schools having an enrollment of approximately one hundred to one thousand. Very large school systems were eliminated because they ordinarily have well-developed audiovisual programs. Very small schools were eliminated because they usually did not have adequate facilities to host the planned demonstrations. Approximately forty host schools were selected for the ETD Project on the basis of size and geographic location so that a sufficient number of other school systems could be invited to each demonstration.

Eastern half of Colorado: The Colorado State Department of Education identified twenty potential host schools. The Evaluation Team selected eight of these school systems to be visited by the entire Team. Because of the short time interval between the initiation of the ETDP Project and the date scheduled for the first demonstration, it was impossible to get a commitment from a sufficient number of school systems so that a random sample could be selected. Therefore, the eight schools visited by the Evaluation Team were those made available by the Colorado State Department of Education.

One Evaluation Team member visited the eight additional host school systems which were in the same geographical vicinity as the eight school systems selected for Evaluation Team visitation. The final four host school systems were not visited by the Evaluation Team because of their location at a distance from those selected for visitation.

In addition, fifteen school systems were randomly selected from the remaining systems in the same geographical location as the sixteen host schools. The population used in selecting this sample was limited to systems having high schools with enrollments of one hundred to one thousand.

Western Half of Colorado: The Colorado State Department of Education identified a number of school systems which could potentially host either Plan A or Plan B demonstrations. These potential host school systems were contacted, and seven agreed to participate. The Evaluation Teams visited all of these seven systems for pretest data collection.

Thirteen additional host school systems were selected and agreed to act only as Plan A hosts. From this population of host schools, three were randomly selected for Evaluation Team visitations. This made a total of ten schools that were selected for pretest visitation by a team. In addition, the remaining school systems, selected to act as Plan A hosts were visited by one investigator.

The population of school systems with high schools of approximately one hundred to one thousand enrollment and not participating as hosts for the ETDP Project were next identified. A random sample of ten of these systems was selected to constitute the central group of non-host schools. One of these schools was later added as a host for a dissemination visit. However, this school was replaced by a school of comparable size which was not included in the final list of host schools. Two additional schools originally intended as host schools were not retained and the final sample consisted of eighteen host schools -- fourteen Plan A and four Plan B. Five additional schools were added to the list of Plan A participants after the pretest data was collected. Since pretest data was not available for these schools, they are not included in the evaluation sample.

Illustration #8: Plan B workshop at Rangely.

CHAPTER X

RESULTS AND DISCUSSION OF THE 1964-65 ACADEMIC YEAR
EASTERN HALF OF COLORADO

Results of the Teacher-Learning Process Analysis Inventory. This study was concerned with a descriptive analysis of student responses to the Teaching-Learning Process Analysis Inventory (See Appendix B, Page 104). Also investigated were the internal characteristics of the inventory. Most of the material contained in Chapter X was taken from the Evaluation report prepared by the staff of Colorado State College.[13]

A review of related literature revealed that studies tended to indicate that learner centered techniques were most desirable. Such factors as personality dimensions, attitudes, and communication were the crux of most studies. Little or no attempt by researchers was made to quantify and empirically assess the dynamics which exist between the teacher and his students.

Information for this study was gathered by administering the instrument to 2,231 students in ten school systems throughout the western portion of the state of Colorado.

Students repsonded to each item on a five-point continuum by indicating the amount of time devoted to different classroom activities. The responses were coded and sent to the Western Data Processing Center in Los Angeles, California, for processing. Two main comparison patterns were used: (1) a comparison of subject matter areas over grade levels and (2) a comparison of grade levels over subject matter areas. The purpose of these patterns for analysis was to describe student responses within each of the subject matter areas as students progressed from grade to grade and to describe student responses within each grade level as a student moved from one subject matter area to another. The subject matter areas were English, mathematics, social studies, and science. The grade levels were Grade 8, Grade 10, and Grade 12.

Discussion of the Teacher-Learning Process Analysis Inventory. The findings in this study provided the basis for two types of conclusions. The first type concerns students' perception of the teaching-learning process as revealed by their responses to the items of the Teaching-Learning Process Analysis Inventory. The first conclusion was developed from an over-all interpretation of response patterns. This is followed by conclusions developed from the major subdivisions of the instrument.

1. Over-all responses of Grade 8 students varied less and tended more toward the middle of the five point item continuum which was used in the instrument than did those of Grade 10 students; and in turn, responses of Grade 10 students varied less and tended more toward the middle of the item continuum than did those of Grade 12 students. This may either reflect differential responses and/or reactions to the inventory by students at different levels or an actual difference in classroom activities at the various levels.
2. Responses to the first nine items of the inventory suggest that students in all comparison categories perceive assignments and class activities as being almost entirely initiated by the teacher. Although Grade 8 students may expect this extrinsic motivation and take it for granted, even Grade 12 students appear to prefer a considerable amount of direction.
3. Both students and teachers are apparently aware of the principles of individual differences as reflected by the items of the instrument which are concerned with individual differences, but students' responses suggest that these practices are not put into effect.
4. Responses to the items on transfer of learning and individual differences indicate that students perceive classroom procedures as being, and they prefer to see them as being, teacher-centered, and report that in their classes emphasis is placed on practical application of their classroom learning.
5. Student responses to the items involving focalization indicate their satisfaction with classroom procedures.
6. The subdivisions of focalization and classroom setting provide responses which show that although students feel they are permitted to discuss feelings about others, their class, and themselves, they do not, in fact, actually discuss the latter.
7. The students' ability to find solutions to his own daily problems is perceived from items fifty-five through fifty-eight as depedning upon the restrictions of the classroom. In most cases, these restrictions are traditional.

8. The items concerning levels of learning support the conclusion that, although students feel much emphasis is placed on memorization, the items concerning higher levels of learning tended to elicit responses equally high on the continuum.
9. Items fifty-five through fifty-eight reveal that students perceive adequate teacher availability and help in working through their own difficulties or problems.
10. The classroom setting is generally regarded as friendly according to items fifty-nine through sixty. Neither extreme dissatisfaction nor extreme enthusiasm is expressed.
11. The items concerning evaluation indicate that schools are not motivating students to evaluate themselves and to measure education by a change in themselves.
12. The items concerning evaluation further indicate that students seem to expect and even accept external evaluative procedures as an integral part of school life.

The second type conclusion is based upon the findings regarding the Teaching-Learning Process Analysis Inventory. The instrument was productive for the purpose of this study but for more discrete uses the instrument could be refined in the following ways:

1. Inspection of items, observation of students during inventory administration, and an analysis of the item arrays seem to indicate that some of the items need to be rewritten to avoid ambiguity. Others need to be revised to portray more clearly what the item intends, and some items need to be omitted because they do not appear to discriminate.
2. Data from the correlation matrix and tha analysis of student responses to each item support the conclusion that there are combinations of items which are designed to elicit responses to a particular given topic. In some cases these items appear to be measuring the same thing as other items, and, therefore, could be eliminated or combined.
3. Results of the stepwise multiple discriminant analysis suggest that the instrument could be shortened and still effectively perform the function of analyzing the teaching-learning process.

Recommendations concerning the Teacher-learning Process Analysis Inventory. Because this is a descriptive study and because it is designed to be a part of a more comprehensive evaluation, the recommendations here are basically limited to two general areas. The first four are concerned with the further analysis needed. The last three evolved from the suggestions of the Study Team during the administration of the inventory. Recommendations for further analysis and administration include:

1. An analysis should be made treating the mean scores for each class as a score to more specifically determine discrimination characteristics of subject matter areas.
2. An item analysis and a stepwise multiple discriminant analysis of teacher scores be made to reveal patterns which are unique to teacher groups.
3. An analysis of teacher-student difference scores (the difference between teacher responses and student responses to an item) be made to aid in determining how closely the two perceive the same situations in the classroom.
4. A factor analysis be undertaken to help reveal items which have a high degree of relationship with one another.
5. The Teaching-Learning Process Analysis Inventory be revised to clarify some items and eliminate others to better enable Grade 8 students to finish the inventory in one class period.
6. The directions for administering the instrument be refined and the purpose be more specifically stated.
7. The nature of teacher and student feelings that accompany the administration of the instrument be further analyzed.

CHAPTER XI

RESULTS AND DISCUSSION OF THE 1965-1966 FISCAL YEAR WESTERN HALF OF COLORADO

The results of the evaluation (made by the Bureau of Research Service, Colorado State College) will be presented separately for each of the four instruments employed. The data reported herein were obtained in the Western half of Colorado as these were the only schools in which both pretest and posttest data were obtained.

Most of the material contained in Chapter XI was taken from the Evaluation report prepared by the staff at Colorado State College.[13]

Central Facilities Checklist (See Appendix B Instruments, Page 87). This instrument is a structured interview completed by one Evaluation Team member with the principal, superintendent, or audiovisual director.

The first question was concerned with the presence of a designated audiovisual director in each school (see Table IV).

SECONDARY SCHOOLS WITH AUDIOVISUAL DIRECTORS
AND THE DIRECTOR'S DUTIES IN A SAMPLE
OF WESTERN COLORADO SCHOOLS

TABLE IV

Do you have an A-V Director?

	Host Schools						Non-Host Schools		
	Plan A			Plan B					
	Yes	No	Total	Yes	No	Total	Yes	No	Total
1965	6	8	14	1	2	3	4	6	10
1966	10	4	14	2	2	4	4	6	10

Six of the 14 Plan A host schools had Audiovisual directors in 1965. In 1966 ten of the 14 schools had directors. In contrast, non-host schools indicated no change.

Concerning duties of the audiovisual director in 1965, four of the six Plan A host schools instructed teachers in the use of A-V equipment and materials. In 1966, all ten reported this as one of their director's duties. (See Table V)

TABLE V

Does the Director instruct teachers on how to use A-V equipment and materials as part of his duties?

	Host Schools						Non-Host Schools		
	Plan A			Plan B					
	Yes	No	Total	Yes	No	Total	Yes	No	Total
1965	4	2	6	1	0	1	4	0	4
1966	10	0	10	1	1	2	3	1	4

The results of the questions concerning who is responsible to find out about the arrival of materials and equipment are reported in Table VI. It appears that new audiovisual directors are assuming part of these duties.

TABLE VI

Who is responsible?

	Host Schools				Non-Host Schools	
	Plan A		Plan B			
	1965	1966	1965	1966	1965	1966
Teacher	0	1	0	0	1	0
Principal	2	1	0	0	2	2
Superintendent	0	0	0	0	0	0
A-V Director	2	7	1	1	0	1
Secretary	1	0	0	0	0	0
Don't Know	1	1	0	1	0	0
Posted on Board	0	0	0	0	1	1
Total	6	10	1	2	4	4

In 1965, five of the fourteen Plan A host schools had regular arrangements to use students for A-V duties. In 1966, six schools used students for this purpose. One more school provided for such assistance, but more than one-half of the Plan A host schools still do not use students at the time of the posttest. Two of the non-host schools used student assistance in 1965, and there was no change in 1966. (See Table VII)

TABLE VII

Do you have a regular arrangement
to use students for A-V duties?

	Host Schools								Non-Host Schools			
	Plan A				Plan B							
	Yes	No	DK	Total	Yes	No	DK	Total	Yes	No	DK	Total
1965	5	9	0	14	1	2	0	3	2	8	0	10
1966	6	8	0	14	0	4	0	4	2	8	0	10

In 1965, only two host and two non-host schools required teachers to operate the A-V equipment. In 1966, twelve host schools and seven non-host required this. This increase for both groups is striking, but the fact that both groups increased seems to cast doubt on the dissemination project as the only cause of the changes. (See Table VIII)

TABLE VIII

Are Teachers required to
operate the A-V equipment?

	Host Schools								Non-Host Schools			
	Plan A				Plan B							
	Yes	No	DK	Total	Yes	No	DK	Total	Yes	No	DK	Total
1965	2	12	0	14	0	3	0	3	2	8	0	10
1066	8	5	1	14	4	0	0	4	7	3	0	10

Most of the schools in both groups required a form for ordering. A proportionately greater number of host schools used order forms both years. There appears to be a shift away from imposing a limit on the amount to be spent for rental material. Some schools have dropped the limit while others have set up a definite sum for rentals. There seems to be movement in all three groups away from imposing limits. Even the non-host schools show an increase in the number of schools with no limit. (See Table IX and X)

TABLE IX

How often can teachers order?

	Host Schools				Non-Host Schools	
	Plan A		Plan B			
	1965	1966	1965	1966	1965	1966
Spring and/or anytime	10	3	2	2	6	3
Fall and/or anytime	1	1	0	1	0	1
Ahead if possible and/or anytime	0	0	0	0	1	0
At least 3 weeks in advance	1	1	0	0	1	0
Anytime	2	8	1	1	1	6
Spring	0	1	0	0	1	0
Total	14	14	3	4	10	10

TABLE X

	Host Schools				Non-Host Schools	
	Plan A		Plan B			
	1965	1966	1965	1966	1965	1966
No limit if reasonable	3	6	0	1	2	5
Limit, but reasonable	8	3	1	0	7	4
Definite sum for rentals	2	4	1	3	0	1
Almost always use free	0	0	1	0	1	0
No response	1	1	0	0	0	0
Total	14	14	3	4	10	10

The most important conclusions suggested by the data are summarized below:

1. There appears to be an increase in the number of Plan A schools who have appointed audiovisual directors.
2. There appears to be an increase in the number of both Plan A and Plan B schools providing clerical assistance.
3. All Plan A and Plan B schools now maintain an A-V inventory while only seven of the ten non-host schools do so.
4. There appears to be an increase in the number of schools requiring teachers to operate audiovisual equipment. This is found in all three groups of schools, non-host as well as Plan A or B.
5. There appears to be an increase in the number of schools who report the ability and willingness to add new equipment if teachers express an interest. This is true for all schools, host and non-host.
6. There is some suggestion of an increase in the number of Plan A schools who provide central storage facilities for audiovisual material.
7. There appears to be a shift in the direction of more liberal ordering policies for Plan A and for non-host schools, More schools report that teachers can order at any time of the year and that there is no limit on rental charges as long as the charge is "reasonable".
8. Most kinds of A-V equipment showed an increased frequency which occurred in non-host as well as host schools. Decreases in equipment holdings in some areas are difficult to explain but may be the result of errors in judgments on the part of respondent who merely estimated the quantities of equipment owned rather than checking inventories. The general increase in audiovisual equipment in all schools whether involved in the dissemination project or not may be reflection of the increased availability of federal money.

The School Questionnaire (See Appendix Instruments, Page 90)

The School Questionnaire was mailed to all schools and picked up, if available, on the day of the Evaluation team visit to the schools. Two copies were sent to each school so that one could be filled out by the principal or superintendent and the other by the audiovisual director if the school had one. In some cases the questionnaire was not completed prior to the school visit. In these cases a stamped envelope was left with the school so that the return could be made by mail. In all, the following number of usable answer sheets were received.

Pretests:

Plan A Administrators	12
Plan B Administrators	4
Non-Host Administrators	9
Host A-V Directors	3

Posttests:

Plan A Administrators	12
Plan B Administrators	2
Non-Host Administrators	10
Host A-V Directors	14
Non-Host A-V Directors	3

In order to analyze the data the answer sheets were coded and the responses were punched on IBM cards. Two by two analyses of variance were then computed on the 1130 IBM computer for the 45 items with each of the first two questions considered separately. Responses to the third question do not fall on a continuum and cannot be evaluated by analysis of variance. The three questions asked are: (1) Are the following items used by most of your faculty? (2) Do you consider the following to be adequate in your school? (3) Do you plan to make improvements on each of the following? It can be seen that there is a sizable amount of personal judgment involved in an answer to any of these questions. Thus the instrument is a measure of opinion more than of fact. Because the first question does not apply to nineteen of the items, the total number of responses to the items is only 116 rather than 135. However, with the third question omitted, 71 responses were available for analysis.

Concerning audiovisual equipment and materials owned by the schools, the study suggests that in many cases the non-host schools increased their number of specific materials and types of equipment in the same proportion that the Plan A host schools did from 1965 to 1966. Those items for which both groups increased their inventory in approximately the same proportion are as follows: Darkening facilities, overhead projectors, tape recorders, TV sets, motion picture film, filmstrips, overhead transparencies, professional prepared tapes, and bulletin boards.

The study indicates a decrease in the total number of materials and equipment for the Plan A host schools in four areas. The non-host schools' totals increased in these four areas. They are as follows: opaque projection, slide projectors, radio sets, and slides.

The Plan A host group of schools had an increase in their total number of phonographs and records. The non-host group of schools decreased their totals in this area. Both groups decreased their total number of display cases from 1965 to 1966.

The Plan A host schools had the same total number 16 mm sound projectors and 8 mm projectors in 1966 as they did in 1965. However, there was some variation within the two years' totals indicating that some schools increased their number of projectors while other schools decreased theirs.

The non-host group increased their total number of 16 mm sound projectors from nineteen in 1965 to twenty-six in 1966. This is a considerable increase, but it appears that one non-host school purchased at least four projectors within the last year causing a substantial change in the total.

Three different sets of analyses were computed. First, the responses of the Plan A administrators were compared with the non-host administrators. Second, the Plan B administrators were compared with the non-host administrators. Finally, the host A-V directors (Plan A and Plan B combined) were compared with the non-host A-V directors. In all cases the second dimension in the analysis of variance was pretest vs. posttest which is labeled the Between Years test in the summaries to be found in Table VII. Between Schools refers to the host vs. non-host comparison. A total of 213 analyses of variance were computed for this instrument.

The most direct test of the effect of the dissemination project is to be found in the "F" ratio for the interaction of Years x Groups. If the project is successful in increasing host group means while the non-host means remain unchanged or decrease, a significant Years x Schools interaction will occur.

Significant "F's" were obtained on four items for the Between Years test suggesting that the response across all subjects was different on the two occasions. In all four instances, the results of the posttest express a more favorable response. The items are as follows:

10. Do you consider slides to be adequate in your school?
11. Are overhead transparencies used by most of your faculty?
32. Do you consider the methods of informing the faculty of the arrival of materials adequate in your school?
37. Is there adequate money available for the maintenance of equipment?

Thirteen items produce significant "F's" Between Schools. This finding suggests that for these items the two groups of educators differed from each other even when the scores for the two years are combined. These would appear to be differences of the sort that were not modified by the dissemination experience but were maintained across this time span. These were about equally distributed with the host group showing the more favorable attitude in seven instances and the non-host group in six. In terms of the groups being compared, there was also a balanced distribution with five found in the A-V director comparison and four in each of the administration comparisons. Below are the thirteen items with the group that give the most favorable response listed after the question.

Plan A administrators vs. non-host

4. Do you consider the slide projectors adequate in your school? (non-host)
7. Do you consider the phonographs adequate in your school? (non-host)
35. Do you consider that the A-V equipment is adequately kept in usable condition? (Plan A)
37. Is adequate money available for the maintenance of equipment? (Plan A)

Plan B administrators vs. non-host

4. Do you consider the slide projectors to be adequate in your school? (non-host)
7. Do you consider the phonographs to be adequate in your school? (non-host)
15. Are television sets used by most of your faculty? (Plan B)
17. Are display cases for exhibits located in hallways used by most of your faculty? (Plan B)

Host A-V directors vs. non-host A-V directors

4. Do you consider the slide projectors to be adequate in your school? (non-host)
6. Do you consider the tape recorders to be adequate in your school? (non-host)
12. Are tapes used by most of your faculty? (host)
17. Are display cases for exhibits located in hallways used by most of your faculty? (host)
29. Do you consider the central A-V facilities to be adequately convenient to all teachers? (host)

A total of six items yielded significant Years x Schools interactions. In five cases the nature of the effect was such as to suggest that the dissemination effort may have changed opinions in the host group more than occurred in the non-host group. These items are listed below:

Plan A administrators vs. non-host

3. Do you consider 8 mm projectors to be adequate in your school?
3. Are 8 mm projectors used by most of your faculty?
10. Do you consider the slides to be adequate in your school?
22. Do you feel ordering and scheduling procedures are adequate in your school when ordering on short notice?

Plan B administrators vs. non-host

3. Do you consider 8 mm projectors to be adequate in your school?

Host A-V directors vs. non-host

10. Do you consider slides to be adequate in your school?

Several of the "F's" appear to relate to one another. The non-host administrators responded very favorably to the adequacy of slide projectors and phonographs. This was revealed in comparison with both the Plan A and Plan B schools. Even the A-V directors whose responses were reported independently agreed on the question about slide projectors. Reference to 8 mm projectors occurs in three of the significant "F's".

In general, it appears that some of the "F's" are accounted for by the fact that the non-host data is used twice, both in the comparisons with Plan A and in the comparisons with Plan B. Taking this into account, it appears that the number of significant "F's" is only slightly more than might be expected on a chance basis when 213 tables are computed. However, the fact that independent groups converge on some items such as 8 mm projectors, slide projectors, and slides give more weight to the argument that slight but definite changes have been detected. The small number of cases also makes the findings difficult to interpret. However, it seems justifiable to say that at least some change in opinion has been revealed by this instrument.

Teacher Questionnaire (See Appendix B, page 94). This instrument is the first of two measuring devices which were mailed out to each school to be distributed to all teachers and collected in the schools for collection by the Evaluation Team member on the occasion of his visit to the school. In a few cases, not all questionnaires were completed at the time of the visit and some were returned by mail. Provision was made to insure anonymity within a given school building through the use of sealed envelopes. The envelopes were not opened by the local principal or project coordinator. Thus all responses and comments by teachers were seen only by the Evaluation Team.

In order to analyze meaningful changes in teacher response, the returns were matched on the basis of specific teachers. Only if a pretest was available for a given teacher was her posttest included for analysis. This technique limited the number of subjects available for analysis but served to control against differences arising merely on the basis of different samples of teachers responding each year. The teachers were further divided on the basis of sex and separate analyses were run for males and females. Analysis of the first year data reported by Cleveland and Krahmer (1965) revealed differences between the sexes on several items.

To evaluate changes between various groups of teachers over time, the analysis of variance test for repeated measurements on the same subjects was employed.

An analysis of ten statements associated with F-ratios significant at the .01 level reveals that all occur for male subjects, that seven of the ten involve Plan A teachers, and that eight of the ten are Between Years tests in which the more adequate responses are given in 1966. These items are listed below:

7. Is there a definite program to inform you about the selection of appropriate A-V materials for your classes?

13. Is there an adequate sum of money available for you to rent and/or purchase A-V materials pertaining to your classes?

14. Is there an opportunity available locally for you to receive instruction in A-V usage?

17. Does your classroom have adequate facilities for the use of A-V equipment?

21. Are adequate time and facilities available so that you can preview materials?

24. Can you get adequate student or other assistance in transporting A-V equipment to your classroom?

26. Do you feel that you make reasonable use of A-V materials in your classes?

27. Do you feel that you do a reasonable job of preparing your classes before showing A-V materials and then follow the showing with adequate discussion and other follow-up activities?

28. Do you feel that you are adequately informed about the operation of the A-V program in your school?

The teachers were asked to indicate on the Teacher Questionnaire the availability to them of twelve pieces of A-V equipment. Chi square analyses were computed for each item based on the frequencies of teachers responding that they had no trouble obtaining the equipment when they wanted it. Of the 24 chi square values only one is significant at the .05 level about equivalent to the chance expectancy. It thus appears that there is no change in teacher opinion concerning the availability of A-V equipment.

A final question on the Teacher Questionnaire asked that each teacher report the average number of minutes per week spent using each of eight items of audiovisual equipment in each class taught. Mean minutes per teacher were computed for each of the subgroups and are reported in Table III. No statistical tests were completed on this data but visual inspection reveals that blackboards and bulletin boards are easily the most widely used. Increases in average minutes of use occur for the majority of items in all groups of teachers. There appears to be a sex difference in the use of blackboards and bulletin boards. The male teachers reveal a general increase in time spent, while the female teachers all show a decrease. Opaque projectors are infrequently used both years. Overhead projectors demonstrate marked increases in usage for all groups except female Plan B teachers. The increase, however, is equally apparent for the non-host schools and it cannot be claimed that the change is a result of the dissemination effort alone.

In summary, the results of the data produced by the Teacher Questionnaire are mildly supportive of the effect of the dissemination project. More significant F's were obtained than could be expected on a chance basis alone. The changes occurred much more frequently for male teachers than for female. Many of the changes were observed in the non-host as well as the host schools. Audiovisual facilities and practices appear to be perceived as being more adequate in 1966 than in 1965. The Plan A teachers appear to show more change in opinion from pretest to posttest than do the Plan B teachers. Increased adequacy is felt with respect to the availability of help in the selection of materials, the amount of equipment and facilities, and the actual effectiveness of audiovisual usage in the classroom.

Teacher Inventory (See Appendix B, Page 104). This instrument is the second of the two measuring devices mailed out to the schools for the distribution to the teachers. It was collected in the same manner and at the same time as the Teacher Questionnaire. Its purpose, however, was to measure attitudes toward A-V procedures rather than facts or opinions.

Although the statistical comparisons were based on only those teachers for whom both a pretest and posttest were available, the total collection of returns was used in a factor analysis of the instrument designed to identify stable factors of subtests which might measure meaningful components of A-V attitudes.

Summary of the Four Instruments. The results of the evaluation project have been summarized at the end of each section devoted to the individual instruments. An overall summary will be presented here to give expression to conclusions which are found in several areas.

A number of changes in A-V practice appears to be demonstrated by school response to the Central Facilities Checklist. These include increases in number of A-V directors, increased clerical assistance, increased willingness to buy new equipment, liberalized ordering policies, and increased quantities of A-V material.

There appear to be only slight changes in administration on A-V director opinions. The most likely changes came in the area of the use and adequacy of 8 mm projectors, slide projectors, and short term ordering procedures.

The teachers surveyed appear to have experienced some small but important changes. For the most part these changes occur more extensively in the men than in the women. The teachers feel that there is available to them more help in the selection of materials, that they have more equipment and facilities to work with, and that they are doing a better job of using audiovisual techniques. At the same time their attitude toward A-V has become somewhat more favorable. In particular, it appears that sharply critical attitudes have been somewhat reduced.

One major purpose of the evaluation, the determination of the superiority of a breadth or depth approach to dissemination, appears not to be resolved. There is no clear pattern of evidence supporting one technique as against the other.

A final observation is worthy of note. In several places it was observed that changes appeared to have taken place for the non-host as well as the host schools. In a sense this finding suggests that the dissemination effort may not have been needed, that the schools would have changed anyway. But it is also possible that the project had repercussions beyond the scope of the host schools. Description of the project in State Department of Education literature may have brought the area of need to the attention of non-host school people. The very experience of the evaluation may have focused attention on school facilities and practices with a resultant change. And finally it may be that outside forces, such as increased federal aid, may have provided the impetus for increased A-V purchases.

CHAPTER XII

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

There appears that a number of changes in audiovisual practice have taken place during the two year operation of the ETD project. Some of these changes include an increased number of A-V directors, increased clerical assistance, increased willingness to purchase new equipment, a liberalized ordering policy and increased quantities of A-V equipment and material.

The teachers surveyed appear to have become more favorable toward A-V. Sharply critical attitudes seem to have been somewhat reduced. Male and female differences in attitudes were noted. A more favorable attitude was reported by females, but practices did not relate to reported attitude in this case.

Teachers in general felt that there is more help available to them in the selection of materials. Teachers feel that they have more equipment and facilities to work with, and that they are doing a better job of utilizing audiovisual techniques. For the most part, these changes occur more extensively in men than in women.

It is, however, difficult to determine the role of the ETD project in causing change in the schools of Colorado. New forces entered the picture since the project began. No doubt the availability of funds made possible by the Elementary-Secondary Education Act of 1965 brought change to the schools of Colorado. The project director observed that certain administrators seemed worried that, as a result of the project, teachers would ask for new equipment and materials. Administrators felt that their present budget would not permit the purchase of the requested equipment.

One major purpose of the evaluation, the determination of the superiority of a breadth or depth approach to dissemination appears to remain unsolved. There is no clear pattern of evidence supporting one technique as against the other. It is entirely possible that both methods of dissemination are needed to fulfill various needs of schools. The Plan A dissemination in breadth reached most of the teachers in Colorado with a message. It was restricted because of the brevity of time. The Plan B depth approach reached only a small group. It is also possible that the complete results of the Plan B program will not be known until the 1966-67 school year because two of the Plan B programs were held late in the spring.

The project was a cooperative one that focused the efforts of a number of projects on a common problem, inservice training in A-V. The project caused these groups to work together in a greater measure than they had in the past. Audiovisual personnel scattered throughout the state became better acquainted with each other and the need in school throughout the state.

No evaluation was made of the impact of the project upon board members and lay persons. Although the attendance of the evening programs was never large, many influential community leaders attended. Any change in their attitude was not measured. The impact of the dissemination project will continue after its completion. Perhaps an evaluation during the 1966-67 school year would yield additional evidence of change possible due to the ETD project.

Concerning future programs, it would seem that an inservice program should include both Plan A and Plan B type activities. The data taken by the team during the 1964-65 academic year revealed a difference in opinion between administrators and their staff. In response to questions about availability, usage and future need for additional audio-visual facilities, administrators stated that these facilities were adequate, available, adequately used, and not in great need of improvement. The teachers' opinions did not agree with this. It appears that administrators need to become more aware of the instructional procedures used in their schools. This perhaps points to a need for inservice A-V programs geared to the needs of administrators as the instructional leaders in their buildings or districts.

The project pointed out the gigantic size and need for the inservice training and the need for further training of team members and audiovisual directors. Many of them were proficient in only limited areas. Perhaps a program to deepen the experience of audiovisual personnel is needed. They in turn would then be capable of conducting type A and B programs in their district and region.

To summarize, it was noted that while changes appear to have taken place, there is no supportive pattern of evidence to determine which method of dissemination, breadth or depth is superior. It was also observed that changes appear to have taken place in non-host schools. This may or may not have been the result of their attention being drawn to the problem by the ETD project. External forces such as ESEA, tended to obscure the cause of change in Colorado. The ETD project was well worth while, however, for much was learned by the teams concerning how to make multi-media demonstrations and to operate workshops. The project also drew A-V personnel throughout Colorado together to work on a common problem. No doubt this benefit to the ETD project will be felt for some time to come.

CHAPTER XIII

SUMMARY

The Educational Technology Dissemination Project was sponsored by the Colorado State Department of Education funded jointly by Title VII, NDEA, and the State of Colorado. The project ran from June, 1964 to September, 1966, and had as its purpose the informing of Colorado schools as to the rationale for the use of audiovisual tools in instruction and the scope of educational media available to educators, and also sought to determine the best method of disseminating A-V information.

The ETD project was operated cooperatively by Colorado State Department of Education, Colorado Audio-visual Association, Colorado University, Colorado State College, and Colorado A-V equipment dealers. Participating schools were assigned to three conditions: Plan A host, Plan B host, and non-host. Plan A schools were those involved in a breadth approach to dissemination. Plan B schools were those involved in a depth approach to dissemination. Non-host schools served as controls. Plan A demonstrations were held in forty host schools, twenty each year. Host schools were selected on the basis of interest, geographic location, valuation per average daily attendance, and size. Schools with a well-developed audiovisual program were not invited to be hosts.

Under the Plan A, a team arrived at a host school in the morning. The team toured facilities, visited with the staff, and set up the demonstration and workshop equipment. School was dismissed at noon. Teachers and administrators attended a multi-media demonstration followed by workshops. Two evening demonstrations were given.

One was for school board members and the other for school patrons. Select equipment was left with the host school for local experimentation.

The Plan B was an in depth approach to the dissemination of audiovisual knowledge. Only eight districts were selected. The A-V programs in these districts were first evaluated. The results were used to provide guidance to assist districts in developing their own audiovisual program. A twelve week graduate course in media utilization was given. Then a follow up, Consultative Service, was offered.

Non-host schools were schools that did not participate in either Plan A or Plan B programs. These schools acted as controls.

The evaluation was made by the Bureau of Research Services of Colorado State College and sought to determine which of the two methods, Plan A breadth or Plan B depth, was the best method of disseminating audiovisual information.

Posttests in western Colorado indicate a number of changes have taken place. These include increases in the number of A-V directors, increased clerical assistance, increased willingness to buy new equipment, liberalized ordering policies, and increased quantities of A-V materials. Teacher opinions also changed, however, more in men than women. Teachers feel that there is more help available in materials selection, more equipment and facilities to work with, and that they are doing a better job of using A-V techniques.

Concerning which dissemination method was best, there was no clear cut evidence supporting one technique over the other, suggesting that both methods are probably needed. It was difficult to assess how much change was a direct result from the dissemination project, as non-host schools also evidenced some change. It is impossible to determine whether the ETD project had repercussions beyond the scope of the host schools or how much other forces such as The Elementary Secondary Education Act also affected change.

Data pointed out a difference in opinion between administrators and teachers concerning the adequacy of A-V facilities, equipment, and materials.

Because two of the western Colorado Plan B's were completed in late winter and two in late spring, it may be suggested that some change might not be evidenced until the fall school term begins and after the posttest.

A value of the project not measurable was the successful cooperation in the project of the Colorado State Department of Education, Colorado Audio-Visual Association, Colorado University, Colorado State College, and Colorado equipment dealers. It is suggested that further inservice work be done cooperatively, especially to deepen the experience of audiovisual directors in the state. Perhaps the only reasonable solution to a statewide inservice program is the establishment of an inservice training program for A-V directors who can conduct Plan A and B programs in their own areas.

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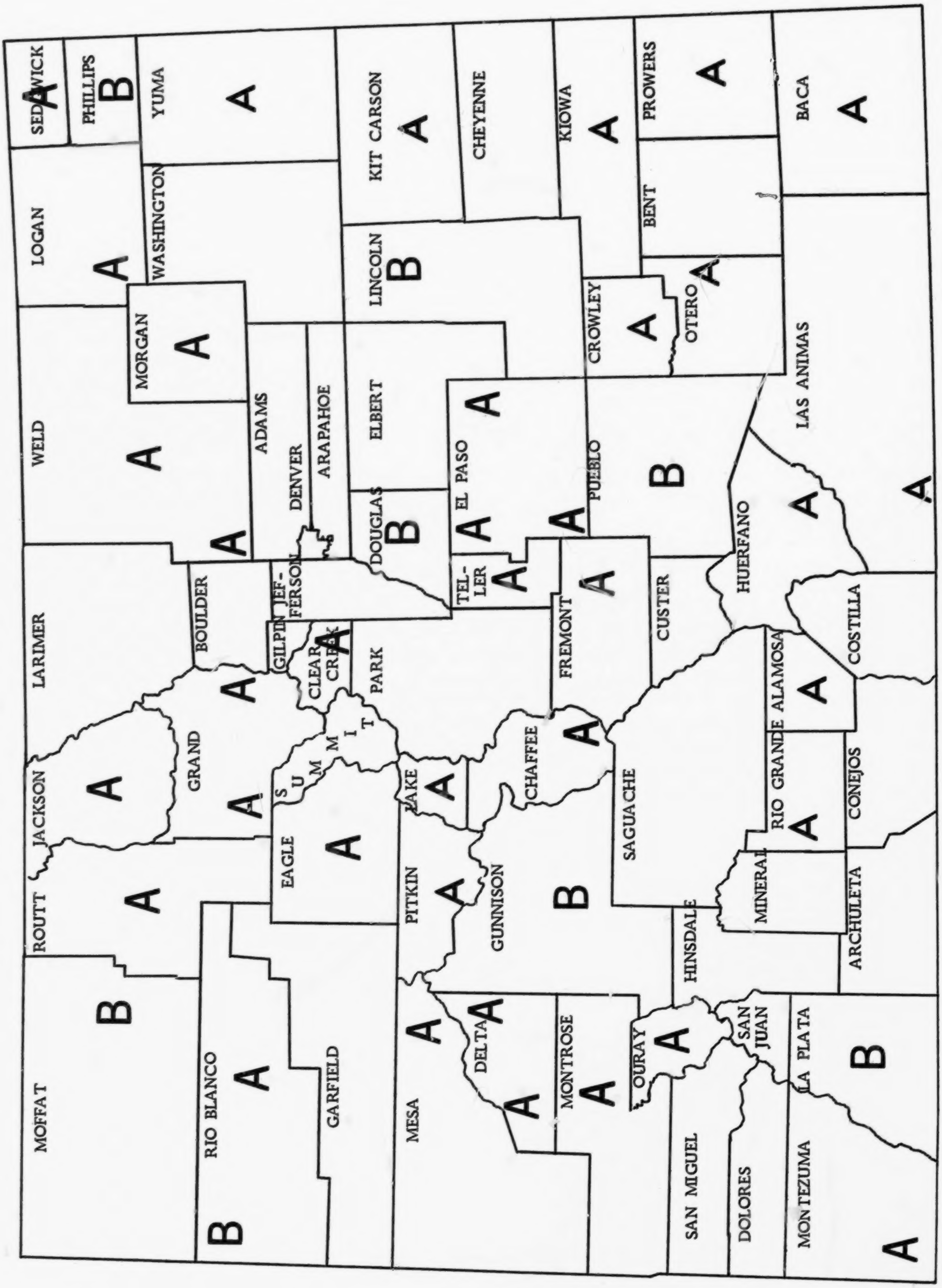
APPENDIX A

Plan A & B Locations
Equipment List
Outline of Plan B Graduate Course in Media
Demonstration Set up Diagram


SEDGWICK A
PHILLIPS B
YUMA A
LOGAN A
WASHINGTON
KIT CARSON A
CHEYENNE
KIOWA A
PROWERS A
BACA A
BENT
OTERO A
CROWLEY A
LINCOLN B
MORGAN A
WELD A
ADAMS
DENVER
ARAPAHOE
ELBERT
EL PASO A
DOUGLAS B
PUEBLO B
LAS ANIMAS A
HUERFANO A
A
LARIMER
BOULDER A
JEF-FERSON
GILPIN
CLEAR CREEK A
TEL-LER A
FREMONT A
CUSTER
COSTILLA
PARK
ALAMOSA A
JACKSON A
GRAND A
SUMMIT A
CHAFFEE A
LAKE A
SAGUACHE
RIO GRANDE A
CONEJOS
ROUTT A
EAGLE A
PITKIN A
GUNNISON B
MINERAL
HINSDALE
ARCHULETA
MOFFAT B
RIO BLANCO A
GARFIELD B
MESA A
DELTA A
A
MONTROSE A
OURAY A
SAN JUAN
LA PLATA B
SAN MIGUEL
DOLORES
MONTEZUMA A

LIST OF EQUIPMENT USED

PLAN A AND B DEMONSTRATION AND WORKSHOP

Projectors

- Bell and Howell 16 mm auto load
- Graflex Model 920 16 mm
- Technicolor 8 mm silent cartridge
- Kodak Carousel 35 mm slide
- McGraw-Hill 8 mm sound on film
- Thermofax Model 66 overhead
- Travel Graph overhead
- Elgeet Micro projector
- Graflex 35 mm slide filmstrip
- Standard 35 mm slide filmstrip
- Bell and Howell automatic filmstrip
- American Optics opaque projector
- Sawyer 35 mm slide projector

Sound Equipment

- Newcomb transcription player
- Revere T3000 tape recorder
- Newcomb AV 70M tape recorder
- Amplified telephone kit
- Seller voice projector PA system

Production Equipment

- Thermofax Model 45 copier
- Thermofax Model 70 copier
- Technifax-Proto-Printed & pickle jar
- K & E Mercury printer
- Seal Dry mount press
- Wrico sign making set
- Leroy lettering set

Materials

- Hook & loop board
- Magnet chalk board
- Flannel board

Filmstrips from SVE, EBF, and others

- EBF, McGraw-Hill Kemp series
- 8 mm single concept films
- 16 mm film clips, EBF, Coronet, others
- 70 x 70 beaded screens
- SVE study prints
- Flannelgraph materials
- 35 mm Canon electric eye
- Educators Progress Service books
- Assorted texts on A-V
- All types of Thermofax OV materials

Complete set of Thermofax overhead art work
K & E Diazo art work
EBF programmed materials
Behavior Research Laboratories programmed material
2 kits for demonstrating handmade and machine made overhead transparencies
Hammond maps
Harcourt and Brace overhead transparencies

Handout Materials

Bibliography of A-V reference materials
Procedure sheets for dry mounting
Sources of free and inexpensive materials
Listing of A-V dealers and commercial people
Brochure on ETV
Brochures on various materials and equipment demonstrated by ETD project

EDUCATION 460-3

Audiovisual Methods and Materials

Unit I

Toward More Effective Communication

Unit Objectives

1. To discuss the communications process.
2. To discuss the conditions and the basic factors of learning in the communications process.
3. To discuss the various types of audiovisual materials and the use of each to meet specific objectives.
4. To develop a reasonable degree of proficiency in the operation of equipment through self-instruction.

Unit Outline

A. Introduction.

B. The theory of communication.

C. History and development of communication and of communication methods including individual, group, and mass media.

D. The teaching-learning process and the function of audiovisual materials in this process.

E. The scope of audiovisual materials.

F. Selection of the proper method and material to meet specific objectives.

G. Steps in the utilization of audiovisual materials.

H. Orientation to equipment operation.
    1. Principles of projection
    2. Principles of sound

Questions for Discussion:

1. What is embraced in the term "communications"?
2. For what kinds of learning, from a psychological point of view, is the school responsible?

3. In what way are audiovisual materials tools of the teacher? May they also be considered as ends in learning? Which of the following terms best describes the function of audiovisual materials: supplementary, complementary, correlated, integrated? Why? Can you cite instances to show that teachers often misconceive the proper purposes of audiovisual materials?

EDUCATION 460-3

Audiovisual Methods and Materials

Unit I
Toward More Effective Communication

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EDUCATION 460-3

Audiovisual Methods and Materials

Unit II

Manipulated and Constructed Media

Unit Objectives

1. To acquaint the student with the various types of manipulated and constructed media which can be produced or procured and used by both students and teachers.

2. To develop an understanding of the function of these media in the classroom.

3. To give the students an opportunity to develop and produce some non-projected materials for their own classroom use.

Unit Outline

A. Demonstration boards
    1. Chalkboard
    2. Bulletin Board
    3. Flannel board and magnetic board
    4. Other display and demonstration boards

B. Charts, graphs, and diagrams

C. Study prints and flat pictures
    1. Selecting prints and pictures
    2. Mounting and protecting pictures
    3. Developing a picture file

D. Three-dimensional materials

E. Exhibits and displays

F. Group resources
    1. Dramatizations
    2. Scripts and script writing

G. Community resources
    1. Use of individuals in the community
    2. Study trips

H. Self-instructional devices

Questions for Discussion:

1. What values do students receive from taking part in the production of audiovisual materials?

2. What type, or types, of picture files should be established in a school? Why?

3. What are the basic techniques in the use of the following:
    a. Chalkboards
    b. Feltboards
    c. Charts and graphs
    d. Bulletin Boards

4. What are the values and limitations of the study trip?

5. What basic factors should be considered in evaluating a bulletin board display?

6. What techniques and materials can be used in transferring a picture in a book to the chalkboard?

7. Describe various types of charts and graphs and their value.

8. What are the various types of dramatic expression? What are the values of each?

9. What is meant by a "branching" type of programmed instruction?

10. Describe the value of using an "expert" from the community in high school teaching.

11. What are the major advantages of simple teaching machines?

12. How would you proceed in the development and construction of an exhibit?

13. Describe the various methods of mounting flat pictures.

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AUDIOVISUAL METHODS AND TECHNIQUES

Education 460-3

Unit III

Electronic Media

Unit Objectives

1. To acquaint the student with various types of electronic media, including projectors and projection materials, audio equipment and materials, and broadcast media and techniques.
2. To develop an understanding of utilization techniques involved in the use of electronic media.
3. To provide an opportunity for students to explore the availability of materials.

Unit Outline

I. Utilization and Evaluation of Electronic Media and Materials

II. Projection Equipment

  A. Direct optical system

  B. Indirect optical system

  C. Reflected optical system

III. Screens

IV. Audio Equipment

  A. Recorders

  B. Playbacks

  C. Learning labs

  D. Central sound systems

V. Broadcast Media

  A. Radio

  B. Telelecture

  C. Television

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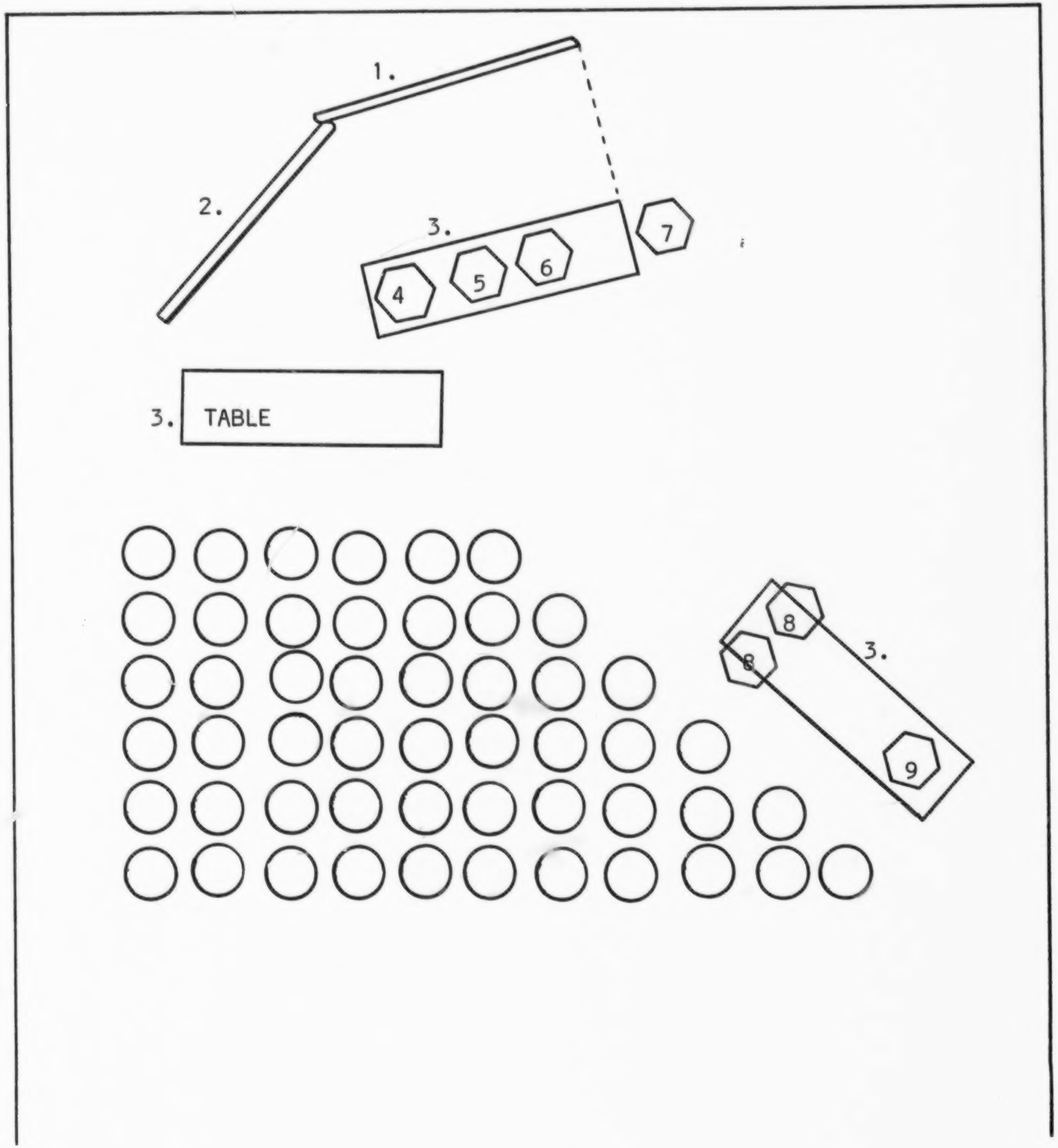
Equipment Layout For
Demonstrations Involving
Groups of 50-100

For Larger Groups, Screens Were Placed Directly In Front Of The Audience and the Equipment Centrally Located.



1. Beaded Screen
2. Lenticular Screen
3. 8'x2' table
4. Thermo-copier
5. 8mm Single Concept Film Projector
6. Overhead Projector
7. Voice Projector
8. Carousel Projector
9. 16mm Projector

APPENDIX B

Evaluation Instruments

1. Central Facilities Checklist
2. Audiovisual Inventory
3. School facilities Questionnaire
   for Administrators and Audiovisual Directors
4. Teacher audiovisual Questionnaire

All the Evaluation Instruments except the Teacher Audio-Visual Questionnaire were developed by the Bureau of Research Services, Colorado State College, Greeley, Colorado specifically for the ETD Project.

CENTRAL FACILITIES CHECKLIST

Name of school______________________________Grade Arrangement____________
Number of students Male________________________Female________________________
Number of teachers Male________________________Female________________________
Names of who fill out this form____
Positions of persons____

DEFINITIONS

ELEMENTS refer to all audio-visual materials and equipment.
EQUIPMENT refers to projectors and other mechanical devices.
MATERIALS refers to films and other audio-visual displays.
AUDIO-VISUAL will be abbreviated in this checklist as A-V.

	Yes	No	Don't Know
1) Do you have an audio-visual director?............... Describe A-V director's duties	___	___	___
2) Is the director a teacher?................................	___	___	___
3) Does the director have free time to handle his duties?..... How much?______periods How many periods per day?______	___	___	___
4) Does the director receive extra salary for his position?... How much?____________________	___	___	___
5) Does the director produce A-V materials?..................	___	___	___
6) Does the director select equipment?.......................	___	___	___
7) Does the director maintain equipment?.....................	___	___	___
8) Does the director instruct teachers how to use A-V equipment and materials as part of his duties?......................	___	___	___
9) Is it the director's duty to announce arrival of new A-V equipment or materials?................................	___	___	___
10) Are the teachers responsible to find out about arrival of materials and equipment themselves?..................... Who is responsible? ____________________________	___	___	___
11-12) Does the director help teachers			
(11) Prepare bulletin boards and other displays?.............	___	___	___
(12) Select appropriate materials for their classes?.........	___	___	___
13) Is clerical assistance available for A-V work?............	___	___	___
14) Do you have a regular arrangement to use students for A-V duties?.. Describe	___	___	___
15) Is a sum of money allocated in your school budget for A-V purposes?... What percent of your budget?________________________	___	___	___

	Yes	No	Don't Know
16) Are teachers consulted about purchase of A-V elements?.......			
17) Will it be possible to add additional A-V elements if teachers request them?..			
18) Do you maintain an inventory of school owned A-V elements?...			
19) Can teachers get the inventory conveniently; without asking for it?..			
20) Can teachers get catalogs of commercial A-V materials conveniently; without asking for it?.............................			
21) Are teachers required to operate the A-V equipment?..........			
22) Is it possible to get A-V elements from other schools in your district?..			

Describe equipment

Describe materials

Describe procedure and time involved in securing these elements

	Yes	No	Don't Know
23) Do you have daily transportation service to other schools?...			
24) Do you use mail for most of your materials?.................			

Describe the school's central A-V facilities.
Location

Size
Other

How do you keep the staff informed regarding available materials and equipment; and ways of using them? List how often in a year each will be used.

Workshops __________ A-V director ______ Evening classes ________
TV instruction __________ Faculty meetings _________ Other ___________

Describe how teachers go about ordering and scheduling materials well in advance of intended use and on short notice.
How much can be ordered?

How often can teachers order?

Form to be used?

How expensive?
Other

How many of each of the following do you have?

Total number of classrooms______Rooms with darkening facilities________
Opaque projectors______16mm projectors Sound_______Silent_____________
8mm projectors_________Silent__________Slide projectors_______________
Overhead projectors_____Movie films_____Filmstrips____________________
Slides_____Overhead transparencies______Tape recorders_________________
Phonographs_________Tapes________Phonograph records__________________
Radio sets__________Television sets____________
Display cases for exhibits located in hallways____________
Bulletin boards in hallways____________

Name of Study Team member____
Date____________________

SCHOOL FACILITIES QUESTIONNAIRE FOR ADMINISTRATORS AND AUDIO-VISUAL DIRECTORS

Name of school ______________________ Grade arrangements ____________

Your name and position ______________________________

DEFINITIONS

EQUIPMENT refers to projectors and other mechanical devices.
MATERIALS refers to films and other audio-visual displays.
AUDIO-VISUAL will be abbreviated in this questionnaire as A-V.

This questionnaire contains statements about your school's audio-visual program. Go to the special answer sheet. Answer each question by blackening in the space under the answer you agree with the most. Please be sure to answer all questions for each statement.

The easiest way to answer is to take the first statement, opaque projectors, and answer the three questions on the answer sheet about it. Then come back to this questionnaire, read the second statement, and answer it.

Your answers to this questionnaire will be kept strictly confidential. Only yourself and members of the Study Team will see your responses.

Thank you for your cooperation.

1. Opaque projectors
2. 16 mm projectors
3. 8mm projectors
4. Slide projectors
5. Overhead projectors
6. Tape recorder
7. Phonograph

Questions 8-13. When answering whether they are used by your faculty consider both school owned and borrowed materials. When answering about adequacy and planned improvements consider only school owned materials.

8. Educational movie films
9. Filmstrips
10. Slides
11. Overhead transparencies
12. Tapes
13. Phonograph records

14. Radio sets
15. Television sets
16. Bulletin boards located in hallways
17. Display cases for exhibits located in hallways
18. Does your school have an organized program to pass information about A-V equipment and materials onto the teachers?
19. Is adequate time and facilities available for teachers to preview materials?
20. How adequate is student interest and assistance in transporting and operating A-V equipment?

21-22. Do you feel ordering and scheduling procedures are adequate
  (21) when ordering well in advance of time needed?
  (22) when ordering on short notice?

23. Can you conveniently get equipment and materials from other schools to supplement areas in which your school is inadequate?
24. Can teachers easily find out what materials and equipment are available in the school?
25. Is your A-V budget adequate?
26. How adequate is the time available for the A-V director to handle his duties?
27. Do you feel the A-V director receives adequate compensation for his duties?

28-29. Do you consider the central A-V facilities to be
  (28) adequate?
  (29) convenient to all teachers?

30. Is there a problem with transporting of materials and equipment to classrooms when needed?

31-32. Are the methods of informing the faculty
  (31) on how to use equipment and materials adequate?
  (32) of arrival of materials adequate?

33. Are a sufficient number of classrooms adapted for use of A-V equipment?
34. Are your A-V facilities adequate so disturbance and moving of classes is at a minimum?
35. Do you consider that the A-V equipment is kept in useable condition?
36. Do you feel that your teachers are adequately trained in utilization of A-V facilities so a training program is unnecessary?

37-41. Is adequate money available for
  (37) maintenance of equipment?
  (38) purchase of equipment?
  (39) purchase of materials?
  (40) rental fees for materials?
  (41) postage for returning materials?

The last four statements refer to the school A-V director. The Study Team is not concerned with how adequate the A-V director is so that we can evaluate what makes a good director or whether this school's director is a good director. The information will only be used to show whether the A-V director has sufficient time and background to provide assistance in certain areas of the A-V program. Possibly the only type of school which could answer adequate to each of these statements would be a large school with a full-time director. Please keep this in mind when answering the following four statements.

42-45. How adequate is your A-V director
- (42) professionally prepared for the demands of his position?
- (43) in aiding in selection of school owned materials and equipment?
- (44) in aiding teachers in selection of materials and equipment?
- (45) in instructing teachers how to use A-V equipment and materials?

After reading the questionnaire, which three of the choices 1 through 45 do you consider to be the strong points of your school's audio-visual program? Wirte in the numbers of your choices from the list of 45.

1.__________ 2.__________ 3.__________

Which three do you consider to be the least adequate or in the greatest need of improvement? Write in the numbers of your choices from the list of 45.

1.__________ 2.__________ 3.__________

The audio-visual director's form of the School Facilities Questionnaire For Administrators and Audio-Visual Directors differs from the administrator's form only in questions 42-45 which appear as follows for audio-visual directors:

42-45. Do you feel there is a demand and that you have sufficient time with all your other duties
- (42) to keep yourself professionally prepared for the demands of your A-V position?
- (43) to aid in selection of school owned materials and equipment?
- (44) to aid teachers in selection of materials and equipment?
- (45) to instruct teachers how to use A-V equipment and materials?

Name____________________
School____________________

	Are the following items used by most of your faculty?						Do you consider the following to be adequate in your school?						Do you plan to make improvements of each of the following?				
	Used extensively	Used to some extent	Limited use	Rarely used	Nonexistent		More than adequate	Adequate	Somewhat inadequate	Very inadequate	Nonexistent		This year	Next year	The immediate future	Improvements not necessary in the immediate future	Does not apply to this school
1	☐	☐	☐	☐	☐	1	☐	☐	☐	☐	☐	1	☐	☐	☐	☐	☐
2	☐	☐	☐	☐	☐	2	☐	☐	☐	☐	☐	2	☐	☐	☐	☐	☐
3	☐	☐	☐	☐	☐	3	☐	☐	☐	☐	☐	3	☐	☐	☐	☐	☐
4	☐	☐	☐	☐	☐	4	☐	☐	☐	☐	☐	4	☐	☐	☐	☐	☐
5	☐	☐	☐	☐	☐	5	☐	☐	☐	☐	☐	5	☐	☐	☐	☐	☐
6	☐	☐	☐	☐	☐	6	☐	☐	☐	☐	☐	6	☐	☐	☐	☐	☐
7	☐	☐	☐	☐	☐	7	☐	☐	☐	☐	☐	7	☐	☐	☐	☐	☐
8	☐	☐	☐	☐	☐	8	☐	☐	☐	☐	☐	8	☐	☐	☐	☐	☐
9	☐	☐	☐	☐	☐	9	☐	☐	☐	☐	☐	9	☐	☐	☐	☐	☐
10	☐	☐	☐	☐	☐	10	☐	☐	☐	☐	☐	10	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐	11	☐	☐	☐	☐	☐	11	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐	12	☐	☐	☐	☐	☐	12	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐	13	☐	☐	☐	☐	☐	13	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐	14	☐	☐	☐	☐	☐	14	☐	☐	☐	☐	☐
15	☐	☐	☐	☐	☐	15	☐	☐	☐	☐	☐	15	☐	☐	☐	☐	☐
16	☐	☐	☐	☐	☐	16	☐	☐	☐	☐	☐	16	☐	☐	☐	☐	☐
17	☐	☐	☐	☐	☐	17	☐	☐	☐	☐	☐	17	☐	☐	☐	☐	☐
18	☐	☐	☐	☐	☐	18	☐	☐	☐	☐	☐	18	☐	☐	☐	☐	☐
19	☐	☐	☐	☐	☐	19	☐	☐	☐	☐	☐	19	☐	☐	☐	☐	☐
20	☐	☐	☐	☐	☐	20	☐	☐	☐	☐	☐	20	☐	☐	☐	☐	☐
21	☐	☐	☐	☐	☐	21	☐	☐	☐	☐	☐	21	☐	☐	☐	☐	☐
22	☐	☐	☐	☐	☐	22	☐	☐	☐	☐	☐	22	☐	☐	☐	☐	☐
23	☐	☐	☐	☐	☐	23	☐	☐	☐	☐	☐	23	☐	☐	☐	☐	☐

	Are the following items used by most of your faculty?						Do you consider the following to be adequate in your school?						Do you plan to make improvements on each of the following?				
	Used extensively	Used to some extent	Limited use	Rarely used	Nonexistent		More than adequate	Adequate	Somewhat inadequate	Very inadequate	Nonexistent		This year	Next year	The immediate future	Improvements not necessary in the immediate future	Does not apply to this school
24	☐	☐	☐	☐	☐	24	☐	☐	☐	☐	☐	24	☐	☐	☐	☐	☐
						25	☐	☐	☐	☐	☐	25	☐	☐	☐	☐	☐
						26	☐	☐	☐	☐	☐	26	☐	☐	☐	☐	☐
						27	☐	☐	☐	☐	☐	27	☐	☐	☐	☐	☐
						28	☐	☐	☐	☐	☐	28	☐	☐	☐	☐	☐
						29	☐	☐	☐	☐	☐	29	☐	☐	☐	☐	☐
						30	☐	☐	☐	☐	☐	30	☐	☐	☐	☐	☐
						31	☐	☐	☐	☐	☐	31	☐	☐	☐	☐	☐
						32	☐	☐	☐	☐	☐	32	☐	☐	☐	☐	☐
						33	☐	☐	☐	☐	☐	33	☐	☐	☐	☐	☐
						34	☐	☐	☐	☐	☐	34	☐	☐	☐	☐	☐
						35	☐	☐	☐	☐	☐	35	☐	☐	☐	☐	☐
						36	☐	☐	☐	☐	☐	36	☐	☐	☐	☐	☐
						37	☐	☐	☐	☐	☐	37	☐	☐	☐	☐	☐
						38	☐	☐	☐	☐	☐	38	☐	☐	☐	☐	☐
						39	☐	☐	☐	☐	☐	39	☐	☐	☐	☐	☐
						40	☐	☐	☐	☐	☐	40	☐	☐	☐	☐	☐
						41	☐	☐	☐	☐	☐	41	☐	☐	☐	☐	☐
						42	☐	☐	☐	☐	☐	42	☐	☐	☐	☐	☐
						43	☐	☐	☐	☐	☐	43	☐	☐	☐	☐	☐
44	☐	☐	☐	☐	☐	44	☐	☐	☐	☐	☐	44	☐	☐	☐	☐	☐
45	☐	☐	☐	☐	☐	45	☐	☐	☐	☐	☐	45	☐	☐	☐	☐	☐

The form of the Teacher Audio-Visual Questionnaire which appears immediately below is the original form used in the Eastern half of Colorado for the Fall, 1964 visitations. This form which was designed on very short notice because of the need for information was revised for use in the Western half of Colorado during Spring, 1965. The revised form is given immediately following the original form.

TEACHER AUDIO-VISUAL QUESTIONNAIRE

Name of school ______________________ Grade arrangement __________
Your name ______________________ Position ______________
Years of experience teaching ______________

DEFINITIONS

EQUIPMENT refers to projectors and other mechanical devices.
MATERIALS refers to films and other audio-visual displays.
AUDIO-VISUAL will be abbreviated in this questionnaire as A-V.

Please blacken in the space under the answer you agree with the most. Blacken in the space nonexistent if your school does not have whatever is asked in the question.

Your answers to this questionnaire will be kept strictly confidential. Only yourself and members of the Study Team will see your responses. Thank you for your cooperation.

	More than adequate	Adequate	Somewhat adequate	Very inadequate	Nonexistent
1-3. Has your school's audio-visual director sufficient time to assist you with the following:					
(1) Selection of appropriate materials for your class?....	☐	☐	☐	☐	☐
(2) Assist with the production of materials?..............	☐	☐	☐	☐	☐
(3) Instruct you how to use new equipment?................	☐	☐	☐	☐	☐
4. Can you easily find out what materials and equipment are available in your school?................................	☐	☐	☐	☐	☐
5. Are you directly told by some definite program about such materials and equipment?................................	☐	☐	☐	☐	☐
6-7. Do you consider that your school's ordering and scheduling procedures are adequate					
(6) when ordering well in advance of the time when you need the materials and equipment?.........................	☐	☐	☐	☐	☐
(7) when ordering on short notice?........................	☐	☐	☐	☐	☐

	More than adequate	Adequate	Somewhat inadequate	Very inadequate	Nonexistent
8. How well do you feel you have been prepared to pperate A-V equipment? Consider your past preparation to have been any of the following. College, A-V director, personal experience with the equipment (self-teaching), etc.					
9. Is it possible to get student or other assistance in operating and transporting equipment?					
10. Is the equipment in useable condition when you want it?					
11. Are you adequately informed of the arrival of materials which might pertain to your classes?					
12. Does your classroom have adequate facilities for use of A-V equipment?					
13. Is your classroom adequate so you do not have to move your classes or create a disturbance for other rooms when using A-V equipment?					
14. Do you consider the school's A-V storage area to be convenient to your classroom?					
15. Is adequate time and facilities available for you to preview materials?					
16. Is it possible to get A-V equipment on short notice so you won't have to plan more than a day in advance?					

Check any of the following items you have to plan ahead to get. Print an N for any items your school does not have. Use a ? if you are not sure whether your school has this item.

Opaque projector ____
16mm projector ____
8mm projector ____
Slide projector ____
Phonograph ____

Overhead projector ____
Tape recorder ____
Television set ____
Radio set ____

Some subject matter areas do not have audio-visual aids of good quality readily available. The Study Team would like an estimate of your experience with this problem. We assume that teachers use audio-visual aids whenever good ones are readily available. Therefore, the amount of time you use audio-visual aids indicates how much good materials are available.

	Very adequate(ly)	More than adequate(ly)	Adequate(ly)	Somewhat inadequate(ly)	Very inadequate(ly)	Nonexistent
17. Does your classroom have adequate facilities for use of A-V equipment? (Darkening facilities and other)...........	☐	☐	☐	☐	☐	☐
18. Do you have to move any of your classes to some room other than your regular classroom to show films, filmstrips,etc? Yes No Unsure						
19-20. Do you feel that you have in your classroom sufficient						
19) blackboard space?................................ Yes No Unsure						
20) bulletin board space?............................ Yes No Unsure						
21. Are adequate time and facilities available so that you can preview materials?...................................	☐	☐	☐	☐	☐	☐
22. Do you consider your school's storage area for A-V equipment to be conveniently located compared to your classroom?	☐	☐	☐	☐	☐	☐
23-24. Can you get adequate student or other assistance in						
23) operating A-V equipment?.........................	☐	☐	☐	☐	☐	☐
24) transporting A-V equipment to your classroom?.......	☐	☐	☐	☐	☐	☐
25. Most of the time, is the equipment in useable condition when you want it? (An average of 9 out of 10 times is considered desirable)..................................... Yes No Unsure						
26. Do you feel that you make reasonable use of A-V materials in your classes?...	☐	☐	☐	☐	☐	☐
27. Do you feel that you do a reasonable job of preparing your classes before showing A-V materials and then follow the showing with adequate discussion and other follow-up activities?..	☐	☐	☐	☐	☐	☐
28. Do you feel that your past A-V training has adequately prepared you for using A-V materials and equipment?...........	☐	☐	☐	☐	☐	☐
29. Do you feel that you are adequately informed about the operation of the A-V program in your school?....................	☐	☐	☐	☐	☐	☐
30. Do you feel that the attitude towards A-V in your school tends to adequately encourage you to use A-V?..............	☐	☐	☐	☐	☐	☐

1. Print a one (1) for any item you have to plan ahead to get.
2. Print a two (2) for any item your school does not have.
3. Print a three(3) if you are not sure whether your school has this item.

Please indicate each class you teach in the space provided and after the class indicate how much time per week you plan to devote on the average to films, slides and other audio-visual aids.

	Class	Movies	Slides	Other
EXAMPLE:	Algebra 9	0	1/2 hour	Models 1/2 hour
	Physics	1 hour	1/2 hour	0

Equipment to consider when answering other. Phonograph, tape recorder, opaque projector, overhead projector, radio, television, maps, charts, models, etc.

Class	Movies	Slides	Other

TEACHER AUDIO-VISUAL QUESTIONNAIRE

Your name____________________. Sex________Name of your school________________

College major________________ Minor________Years of college completed__________

Highest degree earned________Total years teaching experience__________________

In present system____________

DEFINITIONS

EQUIPMENT refers to projectors and other mechanical devices.
MATERIALS refers to films and other audio-visual displays.
AUDIO-VISUAL will be abbreviated in questionnaire as A-V.

Please blacken in the space under the answer you agree with the most for the multiple choice items. Circle the answer you agree with the most for the Yes No Unsure items.

Your answers to this questionnaire will be kept strictly confidential. Only yourself and members of the Study Team will see your responses. Thank you for your cooperation.

Very adequate(ly)	More than adequate(ly)	Adequate(ly)	Somewhat inadequate(ly)	Very inadequate(ly)	Nonexistent

1. Is there a single person in your school with whom you may confer and/or apply for assistance in obtaining and utilizing A-V material?.................................. Yes No Unsure

	Very adequate(ly)	More than adequate(ly)	Adequate(ly)	Somewhat inadequate(ly)	Very inadequate(ly)	Nonexistent
2. Do you adequately use this assistance?						
3-4. In your school does the person responsible for the A-V program have sufficient time to assist you with the following items: (Assume principal is responsible if no specific person is in charge)						
3) Selection of appropriate A-V materials for your classes?	☐	☐	☐	☐	☐	☐
4) Instruct you on how to use new A-V equipment?	☐	☐	☐	☐	☐	☐
5. Can you easily find out about what A-V materials and equipment are available in your school? (Both school owned and rentals)	☐	☐	☐	☐	☐	☐
6. Are you adequately informed of the arrival of new A-V materials or equipment which might pertain to your classes? (Both school owned and rentals)?	☐	☐	☐	☐	☐	☐
7. Is there a definite program to inform you about what is asked in item 3) and 4) above?		Yes		No		Unsure
8-11. Do you consider your school's procedures for ordering materials and scheduling equipment adequate						
8) when ordering on short notice (less than three weeks)?	☐	☐	☐	☐	☐	☐
9) when scheduling on short notice (less than two days)?	☐	☐	☐	☐	☐	☐
10) when ordering well in advance of the time when you need the materials?	☐	☐	☐	☐	☐	☐
11) when scheduling well in advance of the time when you need the equipment?	☐	☐	☐	☐	☐	☐
12. Most of the time can you get the A-V materials and equipment you request? (An average of 9 out of 10 times is desirable)		Yes		No		Unsure
13. Is there an adequate sum of money available for you to rent and/or purchase A-V materials pertaining to your classes?		Yes		No		Unsure
14. Is there an opportunity available locally for you to receive instruction in A-V usage?		Yes		No		Unsure
15. Have you ever taken a course in A-V usage?		Yes		No		Unsure
16. Would you enroll in such a course if it were offered in your school?		Yes		No		Unsure

4. Print a four(4) for any item that you have no problem obtaining when you want it.
5. Print a five (5) for any item you do not use and therefore do not know whether you would have any problem obtaining.

PLEASE PLACE A MARK BY EACH ITEM

Opaque projector ____
16mm projector ____
Filmstrip projector ____
Slide projector ____

Overhead projector ____
Projection screens ____
Tape recorder ____
Phonograph ____

Radio set ____
Television set ____
Maps and/or charts ____
Models and/or displays ____

As part of this project there is a need to know on the average how much time per week teachers devote to the various types of audio-visual aids. Indicate each class you teach and how much time you devote per week on the average to each of the following as in the example.

PLEASE PLACE A MARK UNDER EACH HEADING EVEN IF YOU DO NOT USE THE ITEM.

Motion Pictures	Slides - Filmstrips	Charts-Maps-Pictures	Models-Objects-Displays	Opaque	Overhead	Tapes - Records	Blackboards-Bulletinbrds	Other (Describe)	Period	Class
0	15 min.	2 hr.	½ hr.	0	½ hr.	0	2 hr.	0	3	Algebra 9

What do you consider to be the strongest feature(s) of your school's A-V Program? (Use the back of the questionnaire if you need additional space)

What do you consider to be the greatest limitations of your school's A-V program? (Use the back of the questionnaire if you need additional space)

AUDIO-VISUAL INVENTORY

The following statements represent varying points of view about which there is some controversy in American Education today. Please assume no pose, but respond rapidly according to the degree of agreement with the statements listed below. Mark your answers in the blank space on the answer sheet beginning with number 101 according to the code shown on the right.

101. The widespread use of teaching machines will revolutionize the process of instruction as we know it now............................

102. All teachers should have a central training A-V room where the equipment is permanently installed and available for use there.......

103. All teachers in training should take a course in the use of A-V aids.......................

104. Learning through A-V educational media is a passive experience........................

105. The possible uses of A-V equipment are limited only by the imagination of the person directing the usage.................................

106. Wider acceptance of currently known A-V aids is needed................................

107. Programs for teaching machines should be developed by A-V specialists....................

108. Proper use of A-V materials can go a long way toward providing for individual differences in the learning needs of children...............

109. Most professional educators have viewed newer educational media in the specific context of machines and operations rather than in the more general point of view of a medium for communication....................................

110. There are no educational frontiers in newer educational media--just new gadgets............

111. Public relations are a primary responsibility of A-V people................................

1 Very strong disagreement

2 Moderate disagreement

3 Neutral - neither agree nor disagree

4 Moderate agreement

5 Very strong agreement

112. The development of new A-V aids is a waste of time and resources.................................

113. Recent technological trends in education demand a changing teacher role...........................

114. Only through A-V media can vicarious learning experiences be provided in the classroom..........

115. The teaching of foreign languages in the elementary school lends itself particularly well to the use of A-V aids...........................

116. A-V materials and educational media usage should be the province of A-V specialists................

117. The creative student is apt to be stifled by the extensive use of A-V instructional media..........

118. The vicariousness of learning by A-V aids is not conducive to the most effective learning..........

119. A basic problem of A-V education is to change the attitude of many teachers who look upon A-V aids simply as frills tacked on to their regular teaching...

120. One of the most satisfactory ways to provide adequate educational opportunities for the increasing mass of students is through wider usage of A-V aids.....................................

121 Provision for the purchase of A-V equipment should be included in every school's instructional budget

122. The educational value of broadcast (commercial) television is practically nil.....................

123. The development of A-V centers in every school unit should be encouraged and facilitated.........

124. In one teacher's college, 10 per cent of the instructional budget is given to the A-V department. More colleges should adopt this plan..................

1 Very strong disagreement

2 Moderate disagreement

3 Neutral - neither agree nor disagree

4 Moderate agreement

5 Very strong agreement

125. Exerting influence for administrative decisions favorable to A-V should be a key activity of A-V personnel...................

126. The use of such aids as the bioscope, electric microscope, and science films can revolutinnize the teaching of science.......

127. The expense of most A-V media is out of all proportion to their educational value...........

128. New teachers would be more inclined to use A-V aids if there were wider usage of these aids in teacher-training programs...................

129. Most innovations in newer educational media have been well validated in research studies to substantiate their utility..................

130. Most A-V persons do not use the mass communications media enough in developing a favorable public attitude toward A-V.....................

131. The percentage of teachers using newer educational media has increased greatly in recent years..

132. Wider usage of currently accepted A-V aids is needed..

133. The personal relationship between teacher and student is essential in most learning situations..

134. If surplus funds exist, which could be spent only for supplementary books or for more A-V equipment, the A-V equipment should be chosen...............

135. Teaching machines utility cannot be evaluated solely on the basis of standardized scholastic achievement of students using them...............

136. A-V materials are so specific as to have little adaptability to different teaching requirements or situations...................................

137. These newer educational media tend to subordinate the teacher's relationship with students.........

1 Very strong disagreement

2 Moderate disagreement

3 Neutral - neither agree nor disagree

4 Moderate agreement

5 Very strong agreement

138. The passivity characteristic of learning by A-V aids is not conducive to the most effective learning................................

139. Wider use of newer educational media will ultimately mean that instructional costs can be reduced..................................

1 Very strong disagreement

2 Moderate disagreement

3 Neutral - neither agree nor disagree

4 Moderate agreement

5 Very strong agreement

TEACHING-LEARNING PROCESS ANALYSIS INVENTORY

TEACHER FORM AA

This inventory is designed to determine the amount of time which is spent in each of several classroom activities. In some cases you are asked what time you would prefer to spend.

DIRECTIONS: To help describe this class, you are to mark the amount of time you think is spent in each of the activities listed. From the five amounts of time shown on the right immediately below, you are to select the one you feel best describes this class for each activity. On the answer sheet, indicate the number of your choice with a heavy black mark. Do not try to make the amounts of time in different activities add up to 100%, but consider each activity separately.

EXAMPLE

21 IN THIS CLASS I have my students go to the blackboard for written work......

22 IN THIS CLASS I would prefer to work with my slow students................

23 IN THIS CLASS I have my students do special reading as background for classwork..........................

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5. 95 to 100% of the time

ANSWER SHEET

21 1:::2:::3:::4■■■5:::22 1:::2■■■3:::4:::5:::23 1:::2:::3■■■4:::5:::

In the example above, note how one teacher answered three statements about activities. The teacher thought that the amount of time spent in having students go to the blackboard for written work was 2/3 to 95% of the time so the teacher answered by marking the 4 on the answer sheet for question 21. In question number 22 the teacher thought that the amount of time he would prefer to work with slow students was 5% to 1/3 of the time so the teacher marked the 2 on the answer sheet for question 22. In question number 23 the teacher thought that the amount of time spent having students do special reading as background for classwork was 1/3 to 2/3 of the time so the teacher marked the 3 on the answer sheet for question 23.

Arno H. Luker
Eugene D. Koplitz

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Colorado State College

Charles W. Mclain
Jack Shaw

1 IN THIS CLASS the assignments and class activities are planned only by me..........................

2 IN THIS CLASS each student helps me plan the assignments and class activities on which he will work...

3 IN THIS CLASS the whole class works with me in planning the assignments and class activities..........

4 IN THIS CLASS I would prefer to do all of the planning of assignments and class activities...........

5 IN THIS CLASS I feel that students would prefer to have me do all of the planning of assignments and class activities.................................

6 IN THIS CLASS I would prefer having each student work with me in planning his individual assignments and class activities................................

7 IN THIS CLASS I feel that each student would prefer to help with the planning of his individual assignments and class activities.......................

8 IN THIS CLASS I would prefer having the whole class work with me in planning assignments and class activities....................................

9 IN THIS CLASS I feel that the whole class would prefer to work with me in planning assignments and class activities....................................

10 IN THIS CLASS I feel my students treat each other like adults when they work with each other........

11 IN THIS CLASS I feel that I treat my students as adults...

12 IN THIS CLASS I think the students find the work interesting even though they see no special vlaue in what they are doing...............................

13 IN THIS CLASS the students work the way they do in class because they feel they are helping themselves

14 IN THIS CLASS the students work the way they do in class because they are expected to do so.........

15 IN THIS CLASS the students work the way they do in class because they "had better, or else!"..........

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

16 IN THIS CLASS the students work the way they do in class because of rewards such as special privileges or grades....................................

17 IN THIS CLASS my students are listening to me or watching me demonstrate...........................

18 IN THIS CLASS my students are required to work alone without consulting or talking with me..............

19 IN THIS CLASS my students are working alone, but permitted to consult with me in class................

20 IN THIS CLASS my students are working alone, but permitted to consult or talk with other students in class..

21 IN THIS CLASS my students are working cooperatively in small groups..................................

22 IN THIS CLASS we have total class discussion or activities.......................................

23 IN THIS CLASS the work is too difficult rather than about right for the students of this age and grade..

24 IN THIS CLASS the work is too easy rather than about right for the students of this age and grade........

25 IN THIS CLASS the students' work suffers because they lack necessary experience and background...........

26 IN THIS CLASS the students have un-pleasant feelings which cause them to do poor work....................

27 IN THIS CLASS I am really interested in getting started and working on class activities....................

28 IN THIS CLASS I feel that the students are interested in getting started and working on class activities...

29 IN THIS CLASS I dislike starting the class and I look forward to its end................................

30 IN THIS CLASS I feel that the students dislike starting the class and look forward to its end...........

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

31 IN THIS CLASS assignments and activities are the same for all class members......................

32 IN THIS CLASS individual assignments and activities are provided for various members of the class to allow for differences in interests, backgrounds, and experiences............................

33 IN THIS CLASS I feel that the assignments and activities are of practical value to my students..

34 IN THIS CLASS my students get a chance to use what they have learned...............................

35 IN THIS CLASS I try to give my students practice in looking for places where they might use outside the classroom what they have learned.................

36 IN THIS CLASS I try to give my students practice in understanding how they might wrongly use outside the classroom what they have learned..................

37 IN THIS CLASS in doing their work and completing their assignments my students spend...............

38 IN THIS CLASS I would prefer to have my students listen to me or watch me demonstrate..............

39 IN THIS CLASS I would prefer to have my students work alone without consulting or talking with me.........

40 IN THIS CLASS I would prefer to have my students work alone but with the right to consult or talk with me..

41 IN THIS CLASS I would prefer to have my students work alone but with the right to consult or talk with other students when they wish............................

42 IN THIS CLASS I would prefer to have my students work cooperatively in small groups........................

43 IN THIS CLASS I would prefer to have my students work with each other in the class as a whole.............

44 IN THIS CLASS my students are satisfied with the class activities and assignments..........................

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

45 IN THIS CLASS the class members are permitted to explore and to talk freely about their feelings about this class..............................

46 IN THIS CLASS the students discuss their feelings about this class.............................

47 IN THIS CLASS the students discuss in class their feelings about themselves and their feelings about each other.....................................

48 IN THIS CLASS the students discuss in class ways of getting along with each other and ways of feeling more pleasant about themselves and others...

49 IN THIS CLASS I lecture or give demonstrations without allowing students to discuss or ask questions..

50 IN THIS CLASS I permit students to discuss or ask questions while I am lecturing or giving demonstrations....................................

51 IN THIS CLASS my students actually ask questions, when I permit them to do so while I am lecturing or giving demonstrations................................

52 IN THIS CLASS my students have to memorize facts or other materials..............................

53 IN THIS CLASS my students have to find or look for general rules or principles which show them how to use what they have learned.....................

54 IN THIS CLASS students consult or work with students of the same sex..................................

55 IN THIS CLASS students consult or work with students of the opposite sex.............................

56 IN THIS CLASS I am available to give help when students desire help......................................

57 IN THIS CLASS I give students direct answers, or do some of their work for them when they ask for help......

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

58 IN THIS CLASS I help students think through and work out their own difficulties or problems when they ask me for help........................

59 IN THIS CLASS the student feel relaxed and happy as they go about doing their class work.........

60 IN THIS CLASS students talk about their problems and get rid of their unpleasant feelings........

61 IN THIS CLASS interruptions, noise, and other distractions cause students to do poor work.....

62 IN THIS CLASS the students have sufficient materials to permit them to work as well as they can..

63 IN THIS CLASS we talk about how the students are learning..................................

64 IN THIS CLASS we talk about how the students feel about what they learn........................

65 IN THIS CLASS we talk about how the student's ideas are changing.................................

66 IN THIS CLASS we talk about how these changes will affect the student later in life................

67 IN THIS CLASS my students take tests to decide what grade they will get in class...............

68 IN THIS CLASS my students are happy to get back tests they have taken.........................

69 IN THIS CLASS I work with my students to discover the errors they have made during tests..........

70 IN THIS CLASS I work with my students to help them understand what they did wrong and why they made errors during tests...........................

71 IN THIS CLASS my students would prefer to take tests...................................

For each question select your answer from the five choices below. Then mark the number of your choice, on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

TEACHING-LEARNING PROCESS ANALYSIS INVENTORY

STUDENT FORM AA

This inventory is designed to determine the amount of time which is spent in each of several classroom activities. In some cases you are asked what time you would prefer to spend.

DIRECTIONS: To help describe this class, you are to mark the amount of time you think is spent in each of the activities listed. From the five amounts of time shown on the right immediately below, you are to select the one you feel best describes this class for each activity. On the answer sheet, indicate the number of your choice with a heavy black mark. Do not try to make the amounts of time in different activities add up to 100%, but consider each activity separately.

EXAMPLE

21 IN THIS CLASS we go to the blackboard for written work....................

22 IN THIS CLASS I would prefer to work with other students.................

23 IN THIS CLASS we do special reading as background for classwork.............

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

ANSWER SHEET

21 1---2---3---4■■■5---22 1---2■■■3---4---5---23 1---2---3■■■4---5---

In the example above, note how one student answered three statements about activities. The student thought that the amount of time spent in having students go to the blackboard for written work was 2/3 to 95% of the time so the student answered by marking the 4 on the answer sheet for question 21. In question number 22 the student thought that the amount of time he would prefer to work with other students was 5% to 1/3 of the time, so the student marked the 2 on the answer sheet for question 22. In question number 23 the student thought that the amount of time spent having students do special reading as background for classwork was 1/3 to 2/3 of the time so the student marked the 3 on the answer sheet for question 23.

Arno H. Luker
Eugene D. Koplitz

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Colorado State College

Jack Shaw
Charles W. Mclain

1 IN THIS CLASS the assignments and class acitivities are planned only by the teacher....................

2 IN THIS CLASS I help plan with the teacher the assignments and class activities on which I will work.....

3 IN THIS CLASS the whole class works with the teacher in planning assignments and class activities........

4 IN THIS CLASS I would prefer to have the teacher do all of the planning of assignments and class activities.

5 IN THIS CLASS I feel that the teacher would prefer to do all of the planning of assignments and class activities..

6 IN THIS CLASS I would prefer to work with the teacher in planning my own individual assignments and class activities..

7 IN THIS CLASS I feel that the teacher would prefer to have me help with the planning of my own individual assignments and class activities..............

8 IN THIS CLASS I would prefer having the whole class work with the teacher in planning assignments and class activities..................................

9 IN THIS CLASS I feel the whole class should work with the teacher in planning assignments and class activities..

10 IN THIS CLASS we treat each other like adults when my classmates and I work together......................

11 IN THIS CLASS I feel the teacher treats me as an adult..

12 IN THIS CLASS I find the work interesting, even though I see no special value in what I am doing.....

13 IN THIS CLASS I work the way I do in class because I feel I am helping myself..........................

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

14 IN THIS CLASS I work the way I do in class merely because I am expected to do so........

15 IN THIS CLASS I work the way I do in class because I "had better or else!".............

16 IN THIS CLASS I work the way I do in class because of rewards such as special privileges or grades.............................

17 IN THIS CLASS we are listening to the teacher or watching the teacher demonstrate.........

18 IN THIS CLASS we are required to work alone without consulting or talking with the teacher..

19 IN THIS CLASS we are working alone, but permitted to consult or talk with the teacher in class...................................

20 IN THIS CLASS we are working alone, but permitted to consult or talk with our classmates in class..

21 IN THIS CLASS we are working cooperatively in small groups.................................

22 IN THIS CLASS we have total class discussion or activities................................

23 IN THIS CLASS the work is too difficult rather than about right for me and the students of my age and grade.................................

24 IN THIS CLASS the work is too easy rather than about right for me and the students of my age and grade...................................

25 IN THIS CLASS my work suffers because I lack necessary experience and background.............

26 IN THIS CLASS I have unpleasant feelings which cause me to do poor work.......................

27 IN THIS CLASS I am really interested in getting started and working on class activities..........

28 IN THIS CLASS I feel that the teacher is interested in getting started and working on class activities.................................

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

29 IN THIS CLASS I dislike starting the class and I look forward to its end............

30 IN THIS CLASS I feel that the teacher dislikes starting the class and looks forward to its end.............................

31 IN THIS CLASS assignments and activities are the same for all class members............

32 IN THIS CLASS individual assignments and activities are provided for various members of the class to allow for differences in interests, backgrounds, and experiences.....

33 IN THIS CLASS I feel my assignments and class activities are of practical value to me....

34 IN THIS CLASS I get a chance to use what I have learned................................

35 IN THIS CLASS the teacher trys to give us practice in looking for places where we might use outside the classroom what we have learned..................................

36 IN THIS CLASS the teacher trys to give us practice in understanding how we might wrongly use outside the classroom what we have learned..............................

37 IN THIS CLASS in doing our work and completing our assignments we spend...................

38 IN THIS CLASS I would prefer to work alone during the class period without consulting or talking with the teacher..........................

39 IN THIS CLASS I would prefer to listen to the teacher and watch her demonstrate............

40 IN THIS CLASS I would prefer to work alone but with the right to consult or talk with the teacher.................................

41 IN THIS CLASS I would prefer to work alone but with the right to consult or talk with my classmates when I wish............................

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

42 IN THIS CLASS I would prefer to work cooperatively with small groups of classmates.......

43 IN THIS CLASS I would prefer to work with my other classmates in the class as a whole.....

44 IN THIS CLASS I am satisfied with the class activities and assignments..................

45 IN THIS CLASS other class members and I are permitted to explore and to talk freely about our feelings about this class...............

46 IN THIS CLASS my classmates and I discuss our feelings about this class...................

47 IN THIS CLASS my classmates and I discuss our feelings in class about ourselves and our feelings about each other........................

48 IN THIS CLASS my classmates and I discuss in class ways of getting along with each other and ways of feeling more pleasant about ourselves and others...

49 IN THIS CLASS we listen to the teacher lecture or give demonstrations without a chance to discuss or ask questions................................

50 IN THIS CLASS we are permitted to discuss or ask questions while we are listening to the teacher lecture or give demonstrations....................

51 IN THIS CLASS I actually ask questions I would like to ask, when I am permitted to do so while listening to the teacher lecture or give demonstrations...

52 IN THIS CLASS we have to memorize facts or other materials...

53 IN THIS CLASS we have to find or look for general rules or principles which show us how to use what we have learned................................

54 IN THIS CLASS I consult or work with classmates of my own sex................................

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

69 IN THIS CLASS the teacher works with us to discover the errors we have made during tests.....................................

70 IN THIS CLASS the teacher works with us to help us understand what we did wrong and why we made errors during tests......................

71 IN THIS CLASS I would prefer to take tests......

What amount of time are the following aids used IN THIS CLASS? For each item please mark the number of your choice on the answer sheet beginning with number 125.

125 Movie projector
126 Slide projector
127 Overhead projector
128 Tape recorder
129 Phonograph
130 Radio
131 Television set
132 Maps
133 Permanent wall charts
134 Permanent display models
135 Bulletin board displays

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

55 IN THIS CLASS I consult or work with classmates of the opposite sex.................

56 IN THIS CLASS the teacher is available to give me help when I desire help............

57 IN THIS CLASS the teacher gives me direct answers, or does some of the work for me when I ask the teacher for help.............

58 IN THIS CLASS the teacher helps me think through and work out my own difficulty or problem when I ask the teacher for help.....

59 IN THIS CLASS my classmates and I feel relaxed and happy as we go about doing our class work......................................

60 IN THIS CLASS we talk about our problems and get rid of our unpleasant feelings...........

61 IN THIS CLASS interruptions, noise, and other distractions cause me to do poor work........

62 IN THIS CLASS I have sufficient materials to permit me to work as well as I can...........

63 IN THIS CLASS we talk about how we are learning.....................................

64 IN THIS CLASS we talk about how we feel about what we learn............................

65 IN THIS CLASS we talk about how our ideas are changing...................................

66 IN THIS CLASS we talk about how these changes will affect us later in life.................

67 IN THIS CLASS we take tests to decide what grade we will get in class.........................

68 IN THIS CLASS I am happy to get back a test I have taken.................................

For each question select your answer from the five choices below. Then mark the number of your choice on the answer sheet.

1 0 to 5% of the time

2 5% to 1/3 of the time

3 1/3 to 2/3 of the time

4 2/3 to 95% of the time

5 95 to 100% of the time

END

1-21